SPECIFICATIONS AND CONTRACT DOCUMENTS

CITY OF UNION

CLEAN AND PAINT LIGHT POLES AND TRAFFIC CONTROL POLES ALONG MAIN STREET

SEPTEMBER 14, 2020

JOB NO. 2020-001-LP

OWNER:

CITY OF UNION
P. O. BOX 987
UNION, SC 29379-0987

ADVERTISEMENT FOR BIDS
JOB NO. 2020-001-LP

RECEIPT OF BIDS: Sealed Bids on forms prepared by the Owner will be received from Bidders by the City of Union, S.C. at City Hall, 101Sharpe Avenue, in Union, S.C. until 2:00 p.m. (local time) on **October 13, 2020**, at which time they will be opened and read aloud in public. All work shall be in accordance with Specifications and other contract documents prepared by the Owner.

Work will consist of cleaning and painting 48 ornamental light poles, 16 traffic light poles and arms, and 10 street light poles.

OBTAINING CONTRACT DOCUMENTS: Specifications and other contract documents may be obtained upon request to the Owner. Complete sets of specifications are available for inspection at the offices of the Owner.

LOCAL PREFERENCE OPTION: See Appendix B.

OWNER'S RIGHTS RESERVED: City of Union, the Owner, reserves the right to reject any or all Bids and to waive any formality or technicality in any bid in the interest of the Owner.

BID VALID PERIOD: No bid may be withdrawn for a period of ninety (90) days after scheduled time for receiving Bids.

BID BOND: Each bidder must deposit with his bid security in the amount of 5% of the bid, as described in the Information for Bidders.

City of Union, South Carolina, Utilities Department, City Hall, Union, South Carolina, Joe Nichols, City Administrator.

INFORMATION FOR BIDDERS

BIDS will be received by the City of Union, S.C. (herein called the "Owner"), at City Hall, 101 Sharpe Avenue, in Union, South Carolina until 2:00 p.m. on **October 13, 2020,** then at said office publicly opened and read aloud.

Each Bid must be submitted in a sealed envelope, addressed to the City of Union. Each sealed envelope containing a Bid must be plainly marked on the outside as Bid for Cleaning and Painting Light Poles and Traffic Control Poles and the envelope should bear on the outside the name of the bidder, his address, his contractor license number, if required. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed to the City Administrator, City of Union, PO Box 987, 101 Sharpe Avenue, Union, South Carolina 29379.

All Bids must be made on the required Bid form. All blank spaces for Bid prices must be filled in, in ink or typewritten, and the Bid form must be fully completed and executed when submitted. Only one copy of the Bid for is required.

The Owner may waive any informalities or minor defects or reject any and all Bids. Any Bid may be withdrawn prior to the above scheduled time for the opening of Bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No Bidder may withdraw a Bid within the 90 day period; the time may be extended by mutual agreement between the Owner and the Bidder.

Bidders must satisfy themselves of the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the specifications including Addenda. After Bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of work or the nature of the work to be done. Site visits may be scheduled by contacting Joe Nichols, City Administrator at the City of Union, Phone 864-429-1700.

The Contract Documents contain the provisions required for the construction of the Project. Information obtained from an officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the contract.

A Bid Bond or Cashiers Check is required in an amount equal to at least (5) percent of the amount of the Bid, payable to the City of Union, as a guaranty that if the bid is accepted, the Bidder will execute the Contract.

The Owner may make such investigations as he deems necessary to determine the ability of the Bidder to perform the Work, and the bidder shall furnish the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Agreement and to complete the work contemplated therein.

A conditional or qualified Bid will not be accepted.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout.

Each Bidder is responsible for inspecting the site and for reading and being thoroughly familiar with the Contract Documents. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve any Bidder from any obligations in respect to his Bid.

Each Bidder is responsible to include in his Bid the cost of fees and compliance with permits, laws and regulations.

Time for completion shall be 60 consecutive calendar days from the date specified in the "Notice to Proceed". The Contractor must agree to liquidated damages in the amount of $100 per day for each calendar day after the completion date, plus any monies paid by the Owner for services rendered after the completion date.

CITY OF UNION

CLEAN AND PAINT LIGHT POLES AND TRAFFIC CONTROL POLES
ALONG MAIN STREET

BID

Proposal of _____hereinafter called "Bidder", organized and existing under the laws of the State of _____doing business as a_____. To the City of Union, South Carolina (herein called "Owner). In compliance with your Advertisement for Bids, bidder hereby proposes to perform all Work for Cleaning and Painting Light Poles and Traffic Poles in strict accordance with Contract Documents, within the time set forth therein, and at the prices stated below:

By submission of the Bid, each Bidder certifies, and in the case of a joint Bid each party thereto certifies as to this organization, that this Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

Bidder hereby agrees to commence Work under this Contract on or before a date to be specified in the Notice to Proceed and to fully complete the Project within 60 consecutive calendar days.

BIDDER acknowledges receipt of the following Addendum:

_____

_____

CITY OF UNION

CLEAN AND PAINT LIGHT POLES AND TRAFFIC CONTROL POLES ALONG MAIN STREET

BID SCHEDULE

SEPTEMBER 14, 2020

NO	ITEM	QUANTITY	UNIT PRICE	AMOUNT
1	Clean and Paint Ornamental Light Poles	48/Ea.	$	$
2	Clean and Paint Traffic Light Poles and Arms	16/Ea.	$	$
3	Clean and Paint Street Light Poles	10/Ea.	$	$
	TOTAL BID			**$**

Note: See Requirements and Technical Specifications. Painting and Cleaning of Traffic Light Poles and Arms shall be performed after 6:00 p.m. or on Sunday during non-business hours.

Proposed Subcontractors: The amount of work to be performed by our own forces represent ___ percent of all work described in the Contract Documents. General Contractor shall perform a minimum of 75% of the work. Proposed Subcontractors are as follows:

Type of Work	Name and Location
_____	_____
_____	_____
_____	_____

_____
Witness

BID CERTIFICATION

FIRM:_____

BY:_____

TITLE: _____

DATE:_____

Contractor's License No. _____

BID BOND

KNOW ALL MEN BY THESE PRESENT: that we, the undersigned, _____

As Principal, and_____ as Surety, are hereby

held and firmly bound unto _____as OWNER in

the penal sum of _____ for the payment of which, well and truly to

be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____day of _____, 2020.

The Condition of the above obligation is such that whereas the Principal has submitted to

_____ a certain BID, attached hereto and hereby made a

part of hereof to enter into a contract in writing, for the

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of time within which the OWNER may accept such BID; and said SURETY does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as corporation have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____(L.S.)
Principal

_____
Surety

By:_____

IMPORTANT – Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state of South Carolina.

REQUIREMENTS

CLEAN AND PAINT LIGHT POLES AND TRAFFIC CONTROL POLES
ALONG MAIN STREET

PROJECT NO. 2020-001-LP

SEPTEMBER 14, 2020

The City of Union is currently seeking bids from qualified contractors to provide services for cleaning and painting light poles and traffic control poles in the City of Union along Main Street.

The general requirements are as follows:

1. Clean and paint 48 ornamental light poles as shown on location map. Paint from bottom of base to where head connects to vertical pole. Paint arms and fixtures.

2. Clean and paint 16 traffic light poles and arms as shown on location map. The 16 poles and arms are to be cleaned and painted after 6 p.m. or on Sundays during non-business hours.

3. Clean and paint 10 street light poles as shown on location map.

4. Paint only items which are presently painted. Include painting of appurtenances which are presently painted.

5. Contractor shall perform work during normal work hours (8:00 a.m. to 5:00 p.m.) Monday through Friday, except as noted below. Traffic light poles and arms shall be cleaned and painted after 6:00 p.m. or on Sunday during non-business hours. City shall consider an amended work schedule if submitted by the contractor.

6. Contractor shall provide all traffic control devices to perform the work in a safe manner and to meet all SCDOT requirements.

The City will award the contract to the offerer whose proposed would be most advantageous to the City. Contact Joe Nichols, City Administrator, at 864-429-1700 to schedule a site visit.

SECTION 9B

PAINT AND PAINTING

1. SCOPE: Work under this section consists of all painting specifically required by the Painting Schedule(s) as specified below.

A) PAINT SCHEDULE:

1) Clean and paint 48 ornamental light poles. Color to be black.

2) Clean and paint 16 traffic light poles and arms. Color to black.

3) Clean and paint 10 street light poles. Color to be black.

Color panels shall be approved by the Owner prior to purchase of the paint.

2. PAINTING: It is the intent of these specifications that a full and acceptable paint coverage be given all items required by the Specifications, which shall include all materials, tools, equipment, preparation of surfaces, application of paint, protection of surfaces and other general requirements.

A) Painting shall be performed in a proper and workmanlike manner by competent and experienced painters whose work is satisfactory and acceptable to the Owner. It shall be done at such times as the Owner and Contractor may agree upon, in order that dust free and neat work may be obtained. All painting shall be in strict accordance with the manufacturer's recommendations and all paint shall be by the same manufacturer.

B) Protective Coatings shall be utilized as necessary to protect finished work and extreme care taken for protection of adjacent areas, equipment, shrubbery, or other items while painting is in progress. After painting is completed, all spillage, drops, smears, or other defects shall be removed from all surfaces, and the entire area thoroughly cleaned up. Upon completion, all surfaces shall be left in perfect condition and shall be adequately protected until the project is accepted. Surfaces that are damaged or marred prior to project acceptance shall be repaired to the Owner's satisfaction.

C) All Colors shall be selected by the Owner.

3. MATERIAL: All paint materials shall be first quality and shall be delivered to the job site in the original sealed containers bearing the manufacturer's name and trademark.

A) All paint shall be by Sherwin Williams.

B) Paint Material Schedule shall be as follows: It is the intent of these specifications that the Contractor shall consult with the Owner as to the materials to be used and that a full understanding of materials and procedures be reached prior to ordering or applying any paint.

1) Ornamental light poles, traffic light poles and arms, and street light poles:

Prime Coat – 1 coat of B66A00310 Series Pro-Cryl universal primer (Gray)

Finish Coat – 2 coats of B55B00300 Series Kem 4000 High Solids Acrylic Alkyd Enamel (Black).

4. SURFACE PREPARATION: All surfaces to be painted shall be prepared in a workmanlike manner with the object of obtaining a smooth, clean, and dry surface. The following methods will be used for surface preparation.

A. Methods for Surface Preparation:

1) Hand Tool Cleaning SSPC-SP2: Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust and paint be removed by this process. Mill scale, rust and paint are considered adherent if they cannot be removed by lifting with a dull putty knife. Before hand cool cleaning, remove visible oil, grease, soluble residues, and salts by the methods outlined in SSPC-SP1. For complete instructions, refer to Steel Structures Paint Council Surface Preparation Specification No. 2. Rust areas shall be wire brushed and treated with Rustex to manufacturer's recommendations.

2) Power Tool Cleaning SSPC-SP3: Power Tool cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust and paint be removed by this process. Mill scale, rust, and paint are considered adherent if they cannot be removed by lifting with a dull putty knife. Before power tool cleaning, remove visible oil, grease, soluble residues, and salts by the methods outlined in SSPC-SP1. For complete instructions, refer to Steel Structures Paint Council Surface Preparation Specification No. 3. Rust areas shall be wire brushed and treated with Rustex to manufacturer's recommendations.

3) Spot prime any bare areas with above primer.

B. Surface Preparation Schedule:

1) Ornamental poles, traffic light poles and arms, and street light poles:

Wash with abrasive cleaner. Clean with hand tools and/or power tools.

5. APPLICATION: Paint shall be applied evenly with equipment deemed suitable by the paint manufacturers, and so as to leave no marks. Where necessary to obtain a smooth finish, the surface shall be sanded after application of prime coat. Paint shall be applied, for each coat, at the rate specified by the manufacturer. Any deficiencies in film thickness shall be corrected by the application of additional coats until the recommended thickness is obtained.

A. Drying time shall be held to mean "under normal conditions", and shall be extended if conditions of weather, confined space, dampness, or other reasons so warrant. Additional paint coats shall not be applied until all prior coats are thoroughly dry.

B. Thinning shall not be done unless absolutely necessary, and only upon approval of the manufacturer and Owner. If allowed, paint shall be thinned with only the products of the manufacturer furnishing the paint, and shall be done in strict accordance with the manufacturer's instructions.

END OF SECTION

APPENDIX A

CONTRACTOR AFFIDAVIT
SOUTH CAROLINA ILLEGAL IMMIGRATION REFORM ACT

In accordance with the requirements of the South Carolina Illegal Immigration Reform Act, _____ ("Contractor") hereby certifies that it is currently in compliance with the requirements of Title 8, Chapter 14 of S.C. Code Annotated and will remain in compliance with such requirements throughout the term if its contract with the City of Union, South Carolina.

The contractor hereby acknowledges that in order to comply with requirements of S.C. Code Annotated Section 8-14-20(B), it will:

(1) Register and participate in the federal work authorization program (E-verify) to verify the employment authorization of all new employees; and require agreement from its subcontractors, and through the subcontractors, the sub-subcontractors, to register and participate in the federal verification employment authorization of all new employees.

OR

(2) Employ only workers who:

(a) Possess a valid South Carolina driver's license or identification card issued by the S.C. Department of Motor Vehicles; or

(b) Are eligible to obtain a South Carolina driver's license or identification card in that they meet the requirements set forth in S.C. Code Annotated Sections 56-1-40 through 56-1-90; or

(c) Possess a valid driver's license or identification card from another state where the license requirements are at least as strict as those in South Carolina, as determined by the South Carolina Department of Motor Vehicles.

The contractor agrees to provide to the City of Union upon request any documentation required to establish the applicability of the South Carolina Illegal Immigration Reform Act to the contractor, subcontractor or sub-subcontractor. The contractor further agrees that it will upon request provide the City of Union with any documentation required to establish that the contractor and any subcontractors or sub-subcontractors are in compliance with the requirements of Title 8, Chapter 14 of the S.C. Code Annotated.

Date:_____ By: _____
Contractor

Title: _____

APPENDIX A

Construction

By signing its bid or proposal, contractor certifies that it will comply with the applicable requirements of Title 8 Chapter 14 of the South Carolina Code of Laws and agrees to provide to the City of Union upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable both to contractor and its subcontractors or sub-subcontractors; or (b) the contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractors language requiring its subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14.

Non-Construction

By signing your offer, you certify that you will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agree to provide to the City of Union upon request any documentation required to establish either (a) that Title 8, Chapter 14 is inapplicable to you and your subcontractors or sub-subcontractors; or (b) that you and your subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." You agree to include in any contracts with your subcontractors language requiring your subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14.

APPENDIX B

City of Union
Local Preference Option

It is the intent of the City of Union to promote the use of local businesses and hiring citizens living within the local City of Union/Union County area when possible.

1. Local contractors and businesses (City of Union/Union County) with a valid business license could have a 5% advantage during the consideration of bids.

2. The maximum value of the 5% advantage will be capped at $15,000.

3. If a Local Business is within 5%, not exceeding $15,000, of the lowest bid received, the Local Business will be given consideration of the bid award if they are willing to provide goods or services at the price of the lowest bid received.

4. If conditions of number 3 above are met and the Local Business is not willing to provide goods or services at the price of the lowest bid received, the consideration of the bid award will revert back to the lowest bid received, or the next lowest Local Business within the 5% (maximum $15,000) advantage threshold.

5. Contractor and or business must make every reasonable attempt to hire local City of Union/Union County residents.

6. Selected contractor(s) must make every reasonable effort to purchase/lease all material, equipment and supplies associated with the awarded bid to a local business with a valid City of Union Business License.

7. Contractor(s) receiving award must supply City with a list of their employees working on the project which include the city/town in which they reside along with a list of all equipment, material, suppliers and subcontractors and their addresses (This list will be used in the evaluation process).

8. Special consideration may be given to companies that have products produced and/or manufactured in the United States.

9. Local Purchasing provisions of this section were revised on February 21, 2012, and will be in effect without expiration unless re-authorized by the City Council.

10. Local Purchasing preferences cannot apply: (i) to Federally Funded Projects (ii) to State Funded Projects where the State restricts the use of local preferences under such circumstances; or (iii) to projects funded by Bond proceeds where the Bond covenants restrict the manner of procurement.

SHERWIN WILLIAMS.

PRO INDUSTRIAL™

113.05

PRO-CRYL® UNIVERSAL PRIMER

B66W00310	OFF WHITE
B66A00310	GRAY
B66N00310	RED OXIDE

As of 09/11/2015, Complies with:			
OTC	Yes	LEED® 09 CI	Yes
SCAQMD	Yes	LEED® 09 NC	Yes
CARB	Yes	LEED® 09 CS	Yes
CARB SCM 2007	Yes	LEED® 09 S	Yes
MPI	107,134	NGBS	Yes

CHARACTERISTICS

Pro Industrial Pro-Cryl Universal Primer is an advanced technology, self cross-linking acrylic primer. It is rust inhibitive and designed for commercial, new construction and maintenance applications. It can be used as a primer under water-based or solvent-based high performance topcoats.

- Rust inhibitive
- Single component
- Early moisture resistant
- Fast dry
- Low temperature application 40°F
- Interior and exterior use
- Suitable for use in USDA inspected facilities

Color: Off White, Gray, Red Oxide

Recommended Spread Rate per coat:

Wet mils:	5.0 - 10.0
Dry mils:	1.8 - 3.6
~Coverage:	160 - 320 sq ft/gal Approximate

Theoretical coverage sq ft/gal (m2/L) @ 1 mil / 25 microns dft 577sq ft

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Time @ 6.0 mils wet 50% RH:

	40°F	77°F	120°F
To touch:	2 hrs	40 min	20 min
Tack free:	8 hrs	2 hrs	1 hr
To recoat:	16 hrs	4 hrs	2 hrs
To cure:	45 days	30 days	14 days

Drying time is temperature, humidity, and film thickness dependent.

Finish: Low sheen

Flash Point: N/A

Shelf Life: 36 months, unopened
Store indoors at 40°F to 100°F.

Tinting: Do not tint
B66W310 (may vary by color)

VOC (less exempt solvents):
96 g/L; 0.80 lb/gal
As per 40 CFR 59.406 and SOR/2009-264, s.12

Volume Solids: 36% ± 2%

Weight Solids: 49% ± 2%

Weight per Gallon: 10.23 lb

RECOMMENDED SYSTEMS

Waterborne topcoat:

1-2 cts. Pro Industrial Acrylic
or Pro Industrial DTM Acrlyic
or Pro Industrial Multi-Surface Acrylic
or Pro Industrial Pre-Catalyzed Waterbased Epoxy
or Pro Industrial Waterbased Acrolon 100
or Pro Industrial Waterbased Catalyzed Epoxy

Solventborne topcoat:

1-2 cts. Pro Industrial High Performance Epoxy
or Pro Industrial Urethane Alkyd

Pro Industrial Pro-Cryl Universal Primer B66W310 Off White is GREENGUARD GOLD certified for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg.

System Tested: (unless otherwise indicated)

Substrate: Steel
Surface Preparation: SSPC-SP10
1 ct. Pro Industrial Pro-Cryl Universal Primer
1 ct. Pro Industrial Acrylic

Adhesion:
Method: ASTM D4541
Result: 500 psi

Corrosion Weathering:
Method: ASTM D5894, 10 cycles, 3360 hours
Result: Passes

Direct Impact Resistance:
Method: ASTM D2794
Result: >140 in. lbs.

Dry Heat Resistance*:
Method: ASTM D2485
Result: 200°F

Flexibility:
Method: ASTM D522, 180° bend, 1/4" mandrel
Result: Passes

Moisture Condensation Resistance:
Method: ASTM D4585, 100°F, 1250 hours
Result: Passes

Pencil Hardness:
Method: ASTM D3363
Result: H

Salt Fog Resistance:
Method: ASTM B117, 1250 hours
Result: Passes

Provides performance comparable to products formulated In Lieu of Federal Specification: AA50557 and Paint Specification: SSPC-Paint 23.

*Suitable for intermittent dry heat resistance up to 300°F when used as a system with Sher-Cryl HPA

continued on back

SHERWIN-WILLIAMS.

SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (**NIOSH** approved) and proper containment and cleanup. For more information, call the National Lead Information Center at **1-800-424-LEAD** (in US) or contact your local health authority.

Do not use hydrocarbon solvents for cleaning.

Iron & Steel - Minimum surface preparation is Hand Tool Cleaning per SSPC-SP2. Remove all oil and grease from the surface per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6.

Aluminum - Remove all oil, grease, dirt, oxide and other foreign material per SSPC-SP1.Prime the area the same day as cleaned.

Galvanizing - Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1. When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP16 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned.

Previously Painted Surfaces - If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

APPLICATION PROCEDURES

Apply paint at the recommended film thickness and spreading rate as indicated on front page. Application of coating below minimum recommended spreading rate will adversely affect coating performance.

SAFETY PRECAUTIONS

Refer to the SDS sheets before use. **FOR PROFESSIONAL USE ONLY**
Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

PERFORMANCE TIPS

No painting should be done immediately after a rain or during foggy weather.
When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. Apply coating evenly while maintaining a wet edge to prevent lapping.

APPLICATION

Refer to the SDS before using

Temperature: 40°F minimum
120°F maximum
(air, surface, and material)
At least 5°F above dew point

Relative humidity: 85% maximum

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer: Water

Airless Spray
Pressure ..... 2000 psi
Hose ..... 1/4" ID
Tip ..... .015" - .019"
Filter ..... 60 mesh
Reduction ..... Not recommended

Conventional Spray
Gun ..... Binks 95
Fluid Nozzle 66
Air Nozzle 63PB
Atomization Pressure ..... 60 psi
Fluid Pressure ..... 25 psi
Reduction As needed up to 5% by volume

Brush ..... Nylon/Polyester
Reduction ..... Not recommended

Roller ..... 3/8" woven
Reduction As needed up to 5% by volume

If specific application equipment is listed above, equivalent equipment may be substituted.

CLEANUP INFORMATION

Clean spills and spatters immediately with soap and warm water. Clean hands and tools immediately after use with soap and warm water. After cleaning, flush spray equipment with compliant cleanup solvent to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using solvents.

HOTW 09/11/2015 B66W00310 32 96

KOR, FRC, SP

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative or visit www.paintdocs.com to obtain the most current version of the PDS and/or an SDS.

Kem® 4000
Acrylic Alkyd Enamel

SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (**NIOSH** approved) and proper containment and cleanup. For more information, call the National Lead Information Center at **1-800-424-LEAD** (in US) or contact your local health authority.

Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with the appropriate primer/sealer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Iron & Steel - Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel within 8 hours or before flash rusting occurs.

Aluminum (untreated)- Remove all oil, grease, dirt, oxide and other foreign material per SSPC-SP1. Primer required.

Galvanizing (untreated)- Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. When the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP16 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned. Primer required.

Previously Painted Surface - If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Other substrates may or may not be appropriate. If a specific substrate is not listed above, consult your Sherwin-Williams representative for more information.

Mildew- Prior to attempting to remove mildew, it is always recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions may be advised. Mildew may be removed before painting by washing with a solution of 1 part liquid bleach and 3 parts water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.

PERFORMANCE

Extra White B55W00311

System Tested: (unless otherwise indicated)

Substrate:	Steel
Surface Preparation:	SSPC-SP10
Primer:	1 coat Kem Bond HS @ 1.9 Mils D.F.T.
Finish:	1 coat Kem 4000 @ 1.9 Mils D.F.T.
Abrasion Resistance:	
Method:	ASTM D4060
Result:	101 mg loss
Adhesion:	
Method:	ASTM D4541
Result:	1181 p.s.i.
Corrosion Weathering:	
Method:	ASTM D5894, 10 cycles
Result:	Rating 10, per ASTM D714 for Blistering. Rating 9 per ASTM D1654 for corrosion
Direct Impact Resistance:	
Method:	ASTM D2794
Result:	32 inch lb.
Dry Heat Resistance:	
Method:	ASTM D2485
Result:	200°F
Flexibility:	
Method:	ASTM D522, greater than 1 inch mandrel
Result:	Pass
Humidity Resistance:	
Method:	ASTM D4585, 500 hours
Result:	Rating 10 per ASTM D714 for blistering. Rating 10 per ASTM D1654 for corrosion
Pencil Hardness:	
Method:	ASTM-D3363
Result:	1H

Do not use colorants formulated for interior use only when applying exterior.

Excessive reduction of material can affect film build, appearance, and adhesion.

For improved exterior color and gloss retention, faster drying, sharper gloss, and improved block resistance in stacking, 10% by volume of Acrylic Modifier V70V411 may be added to Kem 4000.

For increased chemical and abrasion resistance, and better color and gloss retention, catalyze at an 8:1 ratio with Exterior Catalyst V66V1020, prior to reduction. Pot Life will be 8 hrs maximum.

During the early stages of drying, the coating is sensitive to rain, dew, high humidity, and moisture condensation. If possible, plan painting schedules to avoid these influences during the first 16-24 hours of curing.

Force dry schedules may affect the color of whites because of heat.

Blocking or sticking may occur when flat surfaces are stacked before adequate cure.

***Critical:** A critical recoat time may occur between 2 hrs and 24 hrs when the temperature is above 50°F (10°C). (Force drying, film thickness and varying humidity conditions may change critical recoat time). Recoating should be tested on small areas under actual application conditions.

SAFETY PRECAUTIONS

Before using, carefully read **CAUTIONS** on label. Refer to the Safety Data Sheets (SDSs) before use.

FOR PROFESSIONAL USE ONLY.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

CLEANUP INFORMATION

Clean spills, spatters & tools with compliant cleanup solvent. After cleaning, flush spray equipment with compliant cleanup solvent to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using solvents.

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

HOTW	02/07/2020	B55W00311	15 445
HOTW	02/07/2020	B55T00304	12 442

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative or visit www.paintdocs.com to obtain the most current version of the PDS and/or an SDS.

SAFETY DATA SHEET

B77W6151A

Section 1. Identification

Product name	: PRO-CRYL® Universal Primer Off White
Product code	: B77W6151A
Other means of identification	: Not available.
Product type	: Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Paint or paint related material.

Manufacturer	: THE SHERWIN-WILLIAMS COMPANY 101 W. Prospect Avenue Cleveland, OH 44115
Emergency telephone number of the company	: US / Canada: (800) 424-9300 Mexico: SETIQ 01-800-00-214-00 / (52) 55-5559-1588 24 hours / 365 days a year
Product Information Telephone Number	: US / Canada: 1-800-474-3794 Mexico: Not Available
Regulatory Information Telephone Number	: US / Canada: (216) 566-2902 Mexico: Not Available
Transportation Emergency Telephone Number	: US / Canada: (800) 424-9300 Mexico: SETIQ 01-800-00-214-00 / (52) 55-5559-1588 24 hours / 365 days a year

Section 2. Hazards 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 CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 2

GHS label elements

Hazard pictograms :

Signal word	: Warning
Hazard statements	: Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Suspected of causing cancer.

Precautionary statements

Section 2. Hazards identification

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

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

This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.

Please refer to the SDS for additional information. Keep out of reach of children. 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
Calcium Carbonate	≥10 - <20	1317-65-3
Titanium Dioxide	≤10	13463-67-7
Polypropylene glycol alkyl phenyl ether	≤1	9064-13-5
Mineral Spirits 140-Flash	≤0.3	64742-88-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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 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.

Section 4. First aid measures

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. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

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. 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.

Section 5. Fire-fighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
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 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 specialized 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 non-emergency personnel".

Environmental precautions : **This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.**

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

Protective measures : 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

Section 7. Handling and storage

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 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Calcium Carbonate	1317-65-3	**OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust **NIOSH REL (United States, 10/2016).** TWA: 5 mg/m³ 10 hours. Form: Respirable fraction TWA: 10 mg/m³ 10 hours. Form: Total
Titanium Dioxide	13463-67-7	**ACGIH TLV (United States, 3/2019).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 5/2018).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Polypropylene glycol alkyl phenyl ether	9064-13-5	None.
Mineral Spirits 140-Flash	64742-88-7	**OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Titanium dioxide	13463-67-7	**CA British Columbia Provincial (Canada, 5/2019).** TWA: 3 mg/m³ 8 hours. Form: Respirable dust TWA: 10 mg/m³ 8 hours. Form: Total dust **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 10 mg/m³ 8 hours. Form: Total dust. **CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 10 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 1/2018).** TWA: 10 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 20 mg/m³ 15 minutes. TWA: 10 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
None.		

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 : **This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.**

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 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: chemical splash goggles.

Skin protection

Hand 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 : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 9.1

Section 9. Physical and chemical properties

Melting point/freezing point	: Not available.
Boiling point/boiling range	: 100°C (212°F)
Flash point	: Closed cup: Not applicable.
Evaporation rate	: 0.09 (butyl acetate = 1)
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: 2.3 kPa (17.5 mm Hg) [at 20°C]
Vapor density	: 1 [Air = 1]
Relative density	: 1.21
Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (40°C (104°F)): >0.205 cm^2/s (>20.5 cSt)
Molecular weight	: Not applicable.
Aerosol product	
Heat of combustion	: 1.083 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 ug l	-

Sensitization

Not available.

Section 11. Toxicological information

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Titanium Dioxide	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Calcium Carbonate	Category 3	-	Respiratory tract irritation
Mineral Spirits 140-Flash	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Mineral Spirits 140-Flash	Category 1	-	-

Aspiration hazard

Name	Result
Mineral Spirits 140-Flash	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Section 11. Toxicological information

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

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 : Suspected of causing 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

Toxicity

Product/ingredient name	Result	Species	Exposure
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : **This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.**

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

	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	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-

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 IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 5(a)2 proposed significant new use rules**: 5-Chloro-2-methylisothiazolinone

TSCA 5(a)2 final significant new use rules: Sodium Nitrite

This product contains a Significant New Use Rule (SNUR) Chemical. Do not allow this product to enter drains, sewers, wastewater treatment systems, groundwater, streams, lakes or ponds. See Environmental Data Sheet (EDS) for additional details.

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

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

International regulations

International lists : **Australia inventory (AICS)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan Chemical Substances Inventory (TCSI): Not determined.
Thailand inventory: Not determined.
Turkey inventory: Not determined.
Vietnam inventory: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		0
Physical hazards		0

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Classification	Justification
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method

History

Date of printing : 8/14/2020

Date of issue/Date of revision : 8/14/2020

Date of previous issue : 7/1/2020

Version : 14.02

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

◸ Indicates information that has changed from previously issued version.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

Kem® 4000
Acrylic Alkyd Enamel

B55-300 Series, V70V00411Acrylic Modifier, V66V01020 Exterior Catalyst

SHERWIN WILLIAMS.

CHARACTERISTICS

KEM 4000 is a higher solids, gloss, general purpose acrylic alkyd enamel coating intended for industrial applications. It is ideal for interior or exterior applications, the refinishing of industrial, construction, and agricultural equipment, as well as a wide range of general metal applications.

For use on properly prepared:
Steel, Galvanized and Aluminum

Features:
- Interior-Exterior applications
- Fast return to service
- Formulated for fast drying and curing
- Excellent block resistance
- Fast handling times
- Suitable for use in USDA inspected facilities

Recommended for use in:
• Interior-exterior • Machinery • Bar joist • Steel doors • Steel supports • Equipment • Farm equipment • Steel decking • Piping

Color: Extra White, Clear Tint, Safety Colors and Black

Recommended Spreading Rate per coat:

Wet mils:	4.0-5.0
Dry mils:	1.9-2.4
Coverage sq. ft. per gallon:	320-404
Theoretical coverage: sq. ft. per gallon @ 1 mil dry	769

Approximate spreading rates are calculated on volume solids and do not include any application loss. Note: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.0 mils wet, @ 50% RH:

	@50°F	@77°F	@120°F
To touch	25 min.	20 min.	10 min.
Tack fee	90 min.	60 min.	30 min.
Block resistant	24 hours	6 hours	3 hours
To recoat*	less than 4 or greater than 24 hours	less than 2 or greater than 24 hours	less than 2 or greater than 24 hours
To cure	7 days	7 days	5 days

*** Critical:** A critical recoat time may occur between 2 hrs and 24 hrs when the temperature is above 50°F (10°C). (Force drying, film thickness and varying humidity conditions may change critical recoat time). Recoating should be tested on small areas under actual application conditions.

Drying and recoat times are temperature, humidity, and film thickness dependent.

Tinting with Maxitoner:

Base	oz. per gallon	Strength
Extra White	0-4	100%
Clear Tint Base	10-12	100%

Check color before using. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

Finish: 80°+ @60° Gloss

Pure White B55W00311
(may vary by color)

V.O.C. (less exempt solvents): As mixed

445 grams per litre; 3.71 lbs. per gallon
As per 40 CFR 59.406

Volume Solids:	48 ± 2%
Weight Solids:	62 ± 2%
Weight per Gallon:	9.74 lb
Flash Point:	96°F TCC
Shelf Life:	24 months, unopened

COMPLIANCE

As of 03/16/2020, Complies with:

OTC	**No**
OTC Phase II	**No**
SCAQMD	**No**
CARB	**No**
CARB SCM 2007	**No**
Canada	**No**
LEED® v4 & v4.1 Emissions	**No**
LEED® v4 & v4.1 V.O.C.	**No**
EPD-NSF® Certified	**No**
MIR-Product Lens Certified	**No**
MPI	**No**

APPLICATION

Temperature:

minimum	40°F / 4.4°C
maximum	120°F / 49°C air, surface, and material

At least 5°F above dew point
Relative humidity: 85% maximum

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer: No reduction in restricted areas
Below 80°F (27°C): Xylene (R2K4) or Toluene (R2K1)
Above 80°F (27°C): Aromatic Naphtha (R2K5) or 150 Flash Naphtha (R2KT4)

Airless Spray:

Pressure	2500 p.s.i.
Hose	3/8 inch I.D.
Tip	.015 inch
Filter	100 mesh

Reduction: Recommended, 10-15% by volume

Conventional Spray:	Binks 95
HVLP: Air 10-12 p.s.i.	Fluid 6-8 p.s.i.
Brush	Natural Bristle
Roller Cover	3/8" woven with solvent resistant core

If specific application equipment is listed above, equivalent equipment may be substituted.

Apply paint at the recommended film thickness and spreading rate as indicated on front page. Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance. Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness, or porosity of the surface, skill, and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, over thinning, climatic conditions, and excessive film build.

Mix paint thoroughly to a uniform consistency with slow speed power agitation prior to use.
Stripe coat crevices, welds, and sharp angles to prevent early failure in these areas.
When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

SPECIFICATIONS

Steel, Light Service:
1 coat Kem 4000 Enamel

Steel, Moderate Service:
2 coats Kem 4000 Enamel

Steel Alkyd Primer:
1 coat Kem Bond HS Primer
or
1 coat Kem Kromik Universal Metal Primer
1-2 coats Kem 4000 Enamel

Steel Acrylic Primer:
1 coat Pro Industrial Pro-Cryl Primer
1-2 coats Kem 4000 Enamel

Aluminum:
1 coat DTM Wash Primer
or
1 coat Pro Industrial Pro-Cryl Primer
1 coat Kem 4000 Enamel

Galvanizing:
1 coat DTM Wash Primer
or
1 coat Galvite HS
or
1 coat Pro Industrial Pro-Cryl Primer
1 coat Kem 4000 Enamel

The systems listed above are representative of the product's use, other systems may be appropriate. Other primers may be appropriate.

continued on back

Kem® 4000
Acrylic Alkyd Enamel

SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (**NIOSH** approved) and proper containment and cleanup. For more information, call the National Lead Information Center at **1-800-424-LEAD** (in US) or contact your local health authority.

Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with the appropriate primer/sealer. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Iron & Steel - Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel within 8 hours or before flash rusting occurs.

Aluminum (untreated)- Remove all oil, grease, dirt, oxide and other foreign material per SSPC-SP1. Primer required.

Galvanizing (untreated)- Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. When the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP16 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned. Primer required.

Previously Painted Surface - If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, additional abrasion of the surface and/or removal of the previous coating may be necessary. Retest surface for adhesion. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

Other substrates may or may not be appropriate. If a specific substrate is not listed above, consult your Sherwin-Williams representative for more information.

Mildew- Prior to attempting to remove mildew, it is always recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions may be advised. Mildew may be removed before painting by washing with a solution of 1 part liquid bleach and 3 parts water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.

PERFORMANCE

Extra White B55W00311

System Tested: (unless otherwise indicated)
Substrate: Steel
Surface Preparation: SSPC-SP10
Primer: 1 coat Kem Bond HS @ 1.9 Mils D.F.T.
Finish: 1 coat Kem 4000 @ 1.9 Mils D.F.T.

Abrasion Resistance:
Method: ASTM D4060
Result: 101 mg loss

Adhesion:
Method: ASTM D4541
Result: 1181 p.s.i.

Corrosion Weathering:
Method: ASTM D5894, 10 cycles
Result: Rating 10, per ASTM D714 for Blistering. Rating 9 per ASTM D1654 for corrosion

Direct Impact Resistance:
Method: ASTM D2794
Result: 32 inch lb.

Dry Heat Resistance:
Method: ASTM D2485
Result: 200°F

Flexibility:
Method: ASTM D522, greater than 1 inch mandrel
Result: Pass

Humidity Resistance:
Method: ASTM D4585, 500 hours
Result: Rating 10 per ASTM D714 for blistering. Rating 10 per ASTM D1654 for corrosion

Pencil Hardness:
Method: ASTM-D3363
Result: 1H

Do not use colorants formulated for interior use only when applying exterior.

Excessive reduction of material can affect film build, appearance, and adhesion.

For improved exterior color and gloss retention, faster drying, sharper gloss, and improved block resistance in stacking, 10% by volume of Acrylic Modifier V70V411 may be added to Kem 4000.

For increased chemical and abrasion resistance, and better color and gloss retention, catalyze at an 8:1 ratio with Exterior Catalyst V66V1020, prior to reduction. Pot Life will be 8 hrs maximum.

During the early stages of drying, the coating is sensitive to rain, dew, high humidity, and moisture condensation. If possible, plan painting schedules to avoid these influences during the first 16-24 hours of curing.

Force dry schedules may affect the color of whites because of heat.

Blocking or sticking may occur when flat surfaces are stacked before adequate cure.

***Critical:** A critical recoat time may occur between 2 hrs and 24 hrs when the temperature is above 50°F (10°C). (Force drying, film thickness and varying humidity conditions may change critical recoat time). Recoating should be tested on small areas under actual application conditions.

SAFETY PRECAUTIONS

Before using, carefully read **CAUTIONS** on label. Refer to the Safety Data Sheets (SDSs) before use.

FOR PROFESSIONAL USE ONLY.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

CLEANUP INFORMATION

Clean spills, spatters & tools with compliant cleanup solvent. After cleaning, flush spray equipment with compliant cleanup solvent to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using solvents.

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

HOTW	03/16/2020	B55W00311	15 445
HOTW	03/16/2020	B55T00304	12 442

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative or visit www.paintdocs.com to obtain the most current version of the PDS and/or an SDS.

SAFETY DATA SHEET

B55B300

Section 1. Identification

Product name	: KEM® 4000 High Solids Acrylic Alkyd Enamel Black
Product code	: B55B300
Other means of identification	: Not available.
Product type	: Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Paint or paint related material.

Manufacturer	: THE SHERWIN-WILLIAMS COMPANY 101 W. Prospect Avenue Cleveland, OH 44115
Emergency telephone number of the company	: US / Canada: (800) 424-9300 Mexico: SETIQ 01-800-00-214-00 / (52) 55-5559-1588 24 hours / 365 days a year
Product Information Telephone Number	: US / Canada: (800) 524-5979 Mexico: Not Available
Regulatory Information Telephone Number	: US / Canada: (216) 566-2902 Mexico: Not Available
Transportation Emergency Telephone Number	: US / Canada: (800) 424-9300 Mexico: SETIQ 01-800-00-214-00 / (52) 55-5559-1588 24 hours / 365 days a year

Section 2. Hazards 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	: FLAMMABLE LIQUIDS - Category 3 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs, lungs) - Category 1 Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 16.2% Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 18.7% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 16.2%

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
May cause cancer.
Suspected of damaging the unborn child.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure. (hearing organs, lungs)

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

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

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.

Hazards not otherwise classified : DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

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
Methyl n-Amyl Ketone	≥10 - ≤21	110-43-0
Kaolin	≥10 - ≤25	1332-58-7
n-Butyl Acetate	≤10	123-86-4
Cyclohexanone	≤3.8	108-94-1
Styrene	≤3	100-42-5
Carbon Black	≤3	1333-86-4
Med. Aliphatic Hydrocarbon Solvent	<1	64742-88-7
Methyl Methacrylate	<1	80-62-6
Cyclic Aliphatic Compound	<1	64742-47-8
Methyl Ethyl Ketoxime	<1	96-29-7
Heavy Aliphatic Solvent	<1	64742-82-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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 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 : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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 : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. 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.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Causes serious eye damage.
Inhalation	: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
Skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Ingestion	: Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact	: Adverse symptoms may include the following: pain watering redness
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	: Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal malformations

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 dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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 surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized 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 non-emergency 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. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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

Protective measures : 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. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. Keep 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Methyl n-Amyl Ketone	110-43-0	**ACGIH TLV (United States, 3/2019).** TWA: 50 ppm 8 hours. TWA: 233 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 100 ppm 10 hours. TWA: 465 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 465 mg/m³ 8 hours.
Kaolin	1332-58-7	**ACGIH TLV (United States, 3/2019).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 10/2016).** TWA: 5 mg/m³ 10 hours. Form: Respirable fraction TWA: 10 mg/m³ 10 hours. Form: Total **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
n-Butyl Acetate	123-86-4	**NIOSH REL (United States, 10/2016).** TWA: 150 ppm 10 hours.

		TWA: 710 mg/m³ 10 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes. **OSHA PEL (United States, 5/2018).** TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2019).** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.
Cyclohexanone	108-94-1	**ACGIH TLV (United States, 3/2019). Absorbed through skin.** TWA: 20 ppm 8 hours. STEL: 50 ppm 15 minutes. **NIOSH REL (United States, 10/2016). Absorbed through skin.** TWA: 25 ppm 10 hours. TWA: 100 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 50 ppm 8 hours. TWA: 200 mg/m³ 8 hours.
Styrene	100-42-5	**ACGIH TLV (United States, 3/2019).** TWA: 20 ppm 8 hours. STEL: 40 ppm 15 minutes. **OSHA PEL Z2 (United States, 2/2013).** TWA: 100 ppm 8 hours. CEIL: 200 ppm AMP: 600 ppm 5 minutes. **NIOSH REL (United States, 10/2016).** TWA: 50 ppm 10 hours. TWA: 215 mg/m³ 10 hours. STEL: 100 ppm 15 minutes. STEL: 425 mg/m³ 15 minutes.
Carbon Black	1333-86-4	**NIOSH REL (United States, 10/2016).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **ACGIH TLV (United States, 3/2019).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 5/2018).** TWA: 3.5 mg/m³ 8 hours.
Med. Aliphatic Hydrocarbon Solvent	64742-88-7	**OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.
Methyl Methacrylate	80-62-6	**ACGIH TLV (United States, 3/2019). Skin sensitizer.** TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 100 ppm 10 hours. TWA: 410 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 410 mg/m³ 8 hours.
Cyclic Aliphatic Compound	64742-47-8	**ACGIH TLV (United States, 3/2019). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.

Methyl Ethyl Ketoxime	96-29-7	**AIHA WEEL (United States, 7/2018). Skin sensitizer.** TWA: 10 ppm 8 hours.
Heavy Aliphatic Solvent	64742-82-1	None.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Methyl n-amyl ketone	110-43-0	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 233 mg/m³ 8 hours. 8 hrs OEL: 50 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2019).** TWA: 50 ppm 8 hours. **CA Ontario Provincial (Canada, 1/2018).** TWA: 25 ppm 8 hours. TWA: 115 mg/m³ 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 50 ppm 8 hours. TWAEV: 233 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Kaolin	1332-58-7	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 2 mg/m³ 8 hours. Form: Respirable **CA British Columbia Provincial (Canada, 5/2019).** TWA: 2 mg/m³ 8 hours. Form: Respirable **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 5 mg/m³ 8 hours. Form: Respirable dust. **CA Ontario Provincial (Canada, 1/2018).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 4 mg/m³ 15 minutes. Form: respirable fraction TWA: 2 mg/m³ 8 hours. Form: respirable fraction
Normal butyl acetate	123-86-4	**CA Alberta Provincial (Canada, 6/2018).** 15 min OEL: 200 ppm 15 minutes. 15 min OEL: 950 mg/m³ 15 minutes. 8 hrs OEL: 150 ppm 8 hours. 8 hrs OEL: 713 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 5/2019).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 1/2018).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 150 ppm 8 hours. TWAEV: 713 mg/m³ 8 hours. STEV: 200 ppm 15 minutes.

		STEV: 950 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours.
Cyclohexanone	108-94-1	**CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.** 8 hrs OEL: 20 ppm 8 hours. 8 hrs OEL: 80 mg/m³ 8 hours. 15 min OEL: 200 mg/m³ 15 minutes. 15 min OEL: 50 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2019). Absorbed through skin.** TWA: 20 ppm 8 hours. STEL: 50 ppm 15 minutes. **CA Ontario Provincial (Canada, 1/2018). Absorbed through skin.** TWA: 20 ppm 8 hours. STEL: 50 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.** TWAEV: 25 ppm 8 hours. TWAEV: 100 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.** STEL: 50 ppm 15 minutes. TWA: 20 ppm 8 hours.
Vinyl benzene	100-42-5	**CA Alberta Provincial (Canada, 6/2018).** 15 min OEL: 40 ppm 15 minutes. 15 min OEL: 170 mg/m³ 15 minutes. 8 hrs OEL: 85 mg/m³ 8 hours. 8 hrs OEL: 20 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2019).** TWA: 50 ppm 8 hours. STEL: 75 ppm 15 minutes. **CA Ontario Provincial (Canada, 1/2018).** TWA: 35 ppm 8 hours. STEL: 100 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.** TWAEV: 50 ppm 8 hours. TWAEV: 213 mg/m³ 8 hours. STEV: 100 ppm 15 minutes. STEV: 426 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 40 ppm 15 minutes. TWA: 20 ppm 8 hours.
Carbon black	1333-86-4	**CA British Columbia Provincial (Canada, 5/2019).** TWA: 3 mg/m³ 8 hours. Form: Inhalable **CA Ontario Provincial (Canada, 1/2018).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction. **CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 3.5 mg/m³ 8 hours.

		CA Quebec Provincial (Canada, 1/2014). TWAEV: 3.5 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 7 mg/m³ 15 minutes. TWA: 3.5 mg/m³ 8 hours.
Methyl methacrylate	80-62-6	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 205 mg/m³ 8 hours. 8 hrs OEL: 50 ppm 8 hours. 15 min OEL: 410 mg/m³ 15 minutes. 15 min OEL: 100 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2019). Skin sensitizer.** TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. **CA Ontario Provincial (Canada, 1/2018). Skin sensitizer.** TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014). Skin sensitizer.** TWAEV: 50 ppm 8 hours. TWAEV: 205 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Skin sensitizer.** STEL: 100 ppm 15 minutes. TWA: 50 ppm 8 hours.
Methyl Ethyl Ketoxime	96-29-7	**AIHA WEEL (United States, 7/2018). Skin sensitizer.** TWA: 10 ppm 8 hours.
Methyl ethyl ketone	78-93-3	**CA Alberta Provincial (Canada, 6/2018).** 15 min OEL: 300 ppm 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 8 hrs OEL: 590 mg/m³ 8 hours. 15 min OEL: 885 mg/m³ 15 minutes. **CA British Columbia Provincial (Canada, 5/2019).** TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. **CA Ontario Provincial (Canada, 1/2018).** TWA: 200 ppm 8 hours. STEL: 300 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 50 ppm 8 hours. TWAEV: 150 mg/m³ 8 hours. STEV: 100 ppm 15 minutes. STEV: 300 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 300 ppm 15 minutes. TWA: 200 ppm 8 hours.

Occupational exposure limits (Mexico)

Section 8. Exposure controls/personal protection

	CAS #	Exposure limits
Methyl n-Amyl Ketone	110-43-0	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 50 ppm 8 hours.
n-Butyl Acetate	123-86-4	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes.
Cyclohexanone	108-94-1	**NOM-010-STPS-2014 (Mexico, 4/2016).** **Absorbed through skin.** TWA: 20 ppm 8 hours. STEL: 50 ppm 15 minutes.
Styrene	100-42-5	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 20 ppm 8 hours. STEL: 40 ppm 15 minutes.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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 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: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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.

Section 8. Exposure controls/personal protection

Respiratory protection	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance	
Physical state	: Liquid.
Color	: Not available.
Odor	: Not available.
Odor threshold	: Not available.
pH	: Not available.
Melting point/freezing point	: Not available.
Boiling point/boiling range	: 123°C (253.4°F)
Flash point	: Closed cup: 35°C (95°F) [Pensky-Martens Closed Cup]
Evaporation rate	: 1 (butyl acetate = 1)
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Lower: 1.1% Upper: 8.1%
Vapor pressure	: 1.3 kPa (10 mm Hg) [at 20°C]
Vapor density	: 3.4 [Air = 1]
Relative density	: 1.09
Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (40°C (104°F)): >0.205 cm^2/s (>20.5 cSt)
Molecular weight	: Not applicable.
Aerosol product	
Heat of combustion	: 12.248 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	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials

Section 10. Stability and reactivity

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

Product/ingredient name	Result	Species	Dose	Exposure
Methyl n-Amyl Ketone	LD50 Oral	Rat	1600 mg/kg	-
n-Butyl Acetate	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
Cyclohexanone	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LD50 Oral	Rat	1800 mg/kg	-
Styrene	LC50 Inhalation Gas.	Rat	2770 ppm	4 hours
	LC50 Inhalation Vapor	Rat	11800 mg/m³	4 hours
	LD50 Oral	Rat	2650 mg/kg	-
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
Methyl Methacrylate	LC50 Inhalation Vapor	Rat	78000 mg/m³	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	7872 mg/kg	-
Methyl Ethyl Ketoxime	LD50 Oral	Rat	930 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Methyl n-Amyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 mg	-
n-Butyl Acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Cyclohexanone	Eyes - Severe irritant	Rabbit	-	24 hours 250 ug	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Human	-	48 hours 50 %	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
Styrene	Eyes - Mild irritant	Human	-	50 ppm	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
Methyl Ethyl Ketoxime	Eyes - Severe irritant	Rabbit	-	100 Ul	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
Cyclohexanone	-	3	-
Styrene	-	2A	Reasonably anticipated to be a human carcinogen.
Carbon Black	-	2B	-
Methyl Methacrylate	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Methyl n-Amyl Ketone	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
n-Butyl Acetate	Category 3	Not applicable.	Narcotic effects
Cyclohexanone	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
Styrene	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
Med. Aliphatic Hydrocarbon Solvent	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
Methyl Methacrylate	Category 3	Not applicable.	Respiratory tract irritation
Cyclic Aliphatic Compound	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
Heavy Aliphatic Solvent	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Methyl n-Amyl Ketone	Category 2	Not determined	Not determined
Kaolin	Category 1	Inhalation	lungs
Cyclohexanone	Category 2	Not determined	Not determined
Styrene	Category 1	Not determined	hearing organs
Med. Aliphatic Hydrocarbon Solvent	Category 1	Not determined	Not determined
Cyclic Aliphatic Compound	Category 2	Not determined	Not determined
Heavy Aliphatic Solvent	Category 1	Not determined	central nervous system (CNS)

Aspiration hazard

Name	Result
Styrene	ASPIRATION HAZARD - Category 1
Med. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Cyclic Aliphatic Compound	ASPIRATION HAZARD - Category 1
Heavy Aliphatic Solvent	ASPIRATION HAZARD - Category 1

Section 11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure. 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.

Section 11. Toxicological information

Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: Suspected of damaging the unborn child.
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

Route	ATE value
Oral	6264.79 mg/kg
Dermal	28931.98 mg/kg
Inhalation (gases)	64359.81 ppm
Inhalation (vapors)	47.3 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Methyl n-Amyl Ketone	Acute LC50 131000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
n-Butyl Acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Cyclohexanone	Acute EC50 32.9 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute LC50 527000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic EC10 3.56 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
Styrene	Acute EC50 1400 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 720 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 4700 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 52 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 4020 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 63 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
Methyl Methacrylate	Acute LC50 130000 µg/l Fresh water	Fish - Pimephales promelas - Adult	96 hours
Cyclic Aliphatic Compound	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days
Methyl Ethyl Ketoxime	Acute LC50 843000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Methyl n-Amyl Ketone	-	-	Readily
n-Butyl Acetate	-	-	Readily

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Styrene	-	13.49	low
Methyl Ethyl Ketoxime	-	2.5 to 5.8	low
Heavy Aliphatic Solvent	-	10 to 2500	high

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1263	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT	PAINT	PAINT
Transport hazard class(es)	3	3	3	3	3
Packing group	III	III	III	III	III
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).	-	-	**Emergency schedules** F-E, S-E

Section 14. Transport information

	ERG No.	ERG No.	ERG No.		
	128	128	128		

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 and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

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

International regulations

International lists :
Australia inventory (AICS): Not determined.
China inventory (IECSC): Not determined.
Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan Chemical Substances Inventory (TCSI): Not determined.
Thailand inventory: Not determined.
Turkey inventory: Not determined.
Vietnam inventory: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		3
Physical hazards		0

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 3	On basis of test data
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 1B	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs, lungs) - Category 1	Calculation method

History

Date of printing	:	6/10/2020
Date of issue/Date of revision	:	6/10/2020
Date of previous issue	:	5/14/2020
Version	:	13
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SGG = Segregation Group UN = United Nations

◸ Indicates information that has changed from previously issued version.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs

Section 16. Other information

obtained from any other source.

Legend
COU POLES
STREET
TRAFFIC
DECORATIVE
ACADEMY ST
N PINCKNEY ST
N GADBERRY ST
N MOUNTAIN ST
DEPOT ST
MOORE ST
N HERNDON ST
W SHARPE AVE
E MAIN ST
W MAIN ST
S HERNDON ST
S PINCKNEY ST
S GADBERRY ST
S MOUNTAIN ST
S ENTERPRISE ST
PALMER ST
E SOUTH ST
PERRIN AVE
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community