SHERWIN WILLIAMS

# *Product Finishes*

CC-F62

# SHER-WOOD® KEM AQUA® *Plus* CLEAR

Gloss .....T75C555
Bright Rubbed Effect .....T75F556
Medium Rubbed Effect.....T75F557
Dull Rubbed Effect .....T75F558
Custom Blend……T75PX Series

## DESCRIPTION

**SHER-WOOD® KEM AQUA® Plus Clear** is a high quality, water reducible, self-seal clear for finishing furniture, cabinets and a wide variety of wood and novelty items. It contains a UV absorber to significantly reduce natural wood discoloration due to sunlight.

**Advantages:**

- Contains UV absorber to reduce discoloration of natural wood from exposure to sunlight.
- Excellent film clarity
- Minimizes tannin bleed even as a self-seal system
- VOC as packaged <2.3 lbs/gal, 275 g/L*
- Dried film is very light in color which makes it suitable for finishing over natural wood or pastel stain colors
- Meets test requirements of the KCMA self-sealed and over Sher-Wood Kem Aqua Plus Waterborne Sealer, and Sher-Wood Kem Aqua Lacquer Sanding Sealer
- Excellent mar resistance
- Better resistance to microfoaming than other latex clears
- Excellent hardness, block resistance and print resistance
- Good flow and leveling
- Good flexibility - passes 20 KCMA cold check cycles
- Excellent resistance to blushing
- Reduces with water**

*VOC compliance limits vary from state to state; please consult local Air Quality rules and regulations.
**To ensure optimal coating performance and stability, it is recommended to use deionized water for reduction.

## CHARACTERISTICS

**Gloss (measured on black glass):**

| | |
|---|---|
| Gloss | 85+ units |
| BRE | 55-59 units |
| MRE | 34-38 units |
| DRE | 17-21 |

**Volume Solids:** 29 ± 1%
**Viscosity**: 28-32 seconds #2 Zahn Cup
**Recommended film thickness:**

| | |
|---|---|
| Mils Wet | 3.0 - 4.0 |
| Mils Dry | 0.8 - 1.3 |

**Spreading Rate** (no application loss)
345-600 sq ft/gal @ 0.8-1.3 mils DFT
**Drying** (77°F, 50% RH):

| | |
|---|---|
| To Touch: | 15 minutes |
| To Handle: | 20 minutes |
| To Sand: | 20 - 25 minutes |
| To Recoat: | 30 minutes |
| To Pack: | 8 - 12 hours |
| To Rub: | 24 hours, or 2 hours at 140°F |
| Force Dry: | 30 minutes at 120°F, then air dry 4 hours to pack |

**Force drying**: When humid shop conditions exist, the required lower relative humidity is achieved only by raising the temperature 10° to 30°F and ventilating out the excess moisture.
This product dries primarily by water evaporation. Best drying occurs at 50% RH or lower and temperatures of 77°F or higher. Good air movement is essential for complete drying.
**Flash Point:** None
**Package Life**: 1 year, unopened, inside storage, keep from freezing
**Air Quality Data:**

- Non-photochemically reactive
- Volatile Organic Compounds (VOC) Theoretical as packaged, less water and exempt solvents <2.3 lb/gal, 275 g/L
- Volatile Hazardous Air Pollutants (VHAPS) as packaged, no reportable VHAPS

An Environmental Data Sheet is available from your local Sherwin-Williams facility.

## SPECIFICATIONS

**Wood** (interior only)**:** Must be clean, dry, and finish sanded. Substrate should be free of grease, oil, dirt, fingerprints, and any contamination to ensure optimum adhesion and coating performance properties. Moisture content of wood should be 6 to 8%.

**Wood Finishing System:**

1. Stain—apply Sher-Wood Water Reducible Stain and allow to dry.
2. Seal—apply Sher-Wood Kem Aqua-Plus, Sher-Wood Kem Aqua Plus Waterborne Sealer (T65F550) or Sher-Wood Kem Aqua Lacquer Sanding Sealer (T65F520) at 2.0-3.0 mils wet. Air dry with good air movement. Sand with 220 grit paper and remove all sanding dust.
3. Topcoat—apply topcoat at 3.0-4.0 mils wet. Dry with good air movement. Apply an additional topcoat for greater build. Allow 30 minutes drying between coats.
4. Dry—allow overnight drying before packing and 24 hours before rubbing.
5. Maximum dry film thickness of the system must not exceed 4 mils dry.

To make toners and shading lacquers, add up to 4 oz/gal of Kem Aqua Colorants, ColorCast Ecotoner® or Blend-a-Color® (BAC) colorants.

**NOTE: Do not use Kem Aqua Plus Clear over Kem Aqua Primer or Kem Aqua Pigmented Lacquer. These systems are not compatible and will discolor.**

**Testing:** Due to the wide variety of substrates, surface preparation methods, application methods, and environments, the customer should test the complete system for adhesion, compatibility and performance prior to full scale application.


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## APPLICATION

Typical Setups

**Reduction:** Apply at full body. If needed to optimize application, reduce with water up to 2% by volume. To ensure optimal performance and stability it is recommended to use deionized water for reduction. To improve flow and air release, add Dipropylene Glycol Monomethyl Ether (DPM), PM Reducer, R6K34, or Butyl Cellosolve, R6K25, not to exceed 2% by volume.

**Conventional Spray:**
Air Pressure ..... 45-55 psi
Fluid Pressure ..... 5-10 psi
Needle/Tip ..... .046-.055"
**Airless Spray:**
Pressure .....1500-1900 psi
Tip .....011"
**Air Assisted Airless:**
Air Pressure ..... 15-20 psi
Fluid Pressure ..... 450-850 psi
Tip ..... .011-.013"
Reducer ..... water
Reduction Rate..... as needed up to 2%
**HVLP:**
Air Pressure at Cap ..... 6-8 psi
Fluid Pressure ..... 4-8 psi
Needle/Tip ..... .046-.055"
**Dip:**
Excessive agitation or turbulence on part immersion or withdrawal may cause foaming.

Some applications and equipment setups, especially air assisted airless and airless, may be prone to microfoaming of the wet film which will give lower gloss and clarity. Do not use higher pressures than needed for atomization.

**Cleanup:**
After cleaning, flush equipment completely with water, followed by flushing with 2 parts water and 1 part Butyl Cellosolve to remove water residue and to prevent rusting.

## ADDITIONAL INFORMATION

- Not recommended for exterior use.
- Use stainless steel spray equipment.
- Tank, piping, and containers should be lined steel or plastic.
- Mix thoroughly prior to use. Avoid vigorous agitation which may cause bubbling or foaming.
- **Do not expose to freezing temperatures. The liquid coating will not handle any freeze/thaw cycles.**
- Pretest the system under shop conditions.
- Excessive wet film thicknesses (>4.0 mils wet) may sag.
- Very low humidity may cause mud-cracking and poor film properties.
- When finishing Redwood, Red or White Oak, Pine and Cedar wood with water based finishes, tannins may be extracted from the wood by the water and cause staining and/or discoloration of the stain, sealer, and/or topcoat. This tannin bleed is most evident with white or pickled stains and clear topcoats. Users are urged to thoroughly test the system under shop conditions.
- Natural Finished Woods (unstained) will change color on aging and exposure to light. This is a natural phenomenon. Clear finishes will not prevent the wood from changing color.
- Products must be air dried at least overnight with good air movement before stacking or packing.
- This product, and other water reducible clears, may yield a slightly different color over dye stains than solvent based clears.
- May be tinted with up to 4 ounces of Kem Aqua Colorants, ColorCast Ecotoner® or Blend-a-Color® (BAC) colorants per gallon.

**Performance Tests:**
Cold Check..... Pass - 20 cycles
Bell Adhesion Test .....Pass
Nickel Adhesion Test.....Pass
Print Resistance (4psi/18 hours) .....No Print
24-hour Detergent &
Water Edge Soak .....Pass

## CAUTIONS

**FOR INDUSTRIAL SHOP APPLICATION**

Thoroughly review product label and Material Safety Data Sheet (MSDS) for safety and cautions prior to using this product.

A Material Safety Data Sheet is available from your local Sherwin-Williams facility.

Please direct any questions or comments to your local Sherwin-Williams facility.

**Note**: Product Data Sheets are periodically updated to reflect new information relating to the product. It is important that the customer obtain the most recent Product Data Sheet for the product being used. The information, rating, and opinions stated here pertain to the material currently offered and represent the results of tests believed to be reliable. However, due to variations in customer handling and methods of application which are not known or under our control, The Sherwin-Williams Company cannot make any warranties as to the end result.

# ENVIRONMENTAL DATA SHEET

**(Certified Product Data Sheet)**

**Date of Preparation**
Aug 13, 2014

**07 00 [2254]**

**PRODUCT NUMBER**
T75F556

**PRODUCT NAME**
SHER-WOOD® KEM AQUA® Plus Water Reducible Clear Finish, Bright Rubbed Effect

**MANUFACTURER'S NAME**
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

This document includes all data required by 40 CFR 63.801(a) for a Certified Product Data Sheet under criteria specified in 40 CFR 63.805(a). All data given below are MAXIMUM THEORETICAL VALUES based on the product AS CURRENTLY FORMULATED. Variations may occur on individual batches due to adjustments made during production.

**Product Weight**
8.47 lb/gal

**Specific Gravity**
1.02

**FLASH POINT**
N.A.

**Hazard Category (for SARA 311.312)**
| Acute |

**Volatile Ingredients**

| Chemical / Compound | SARA 302 EHS | CERCLA | SARA 313 TC | HAPS 112 | % by Weight | % by Volume |
|---|---|---|---|---|---|---|
| 2-Methoxymethylethoxypropanol 34590-94-8 | N | N | N | N | 5 | 6 |
| 1-(2-Butoxymethylethoxy)-propanol 29911-28-2 | N | N | N | N | 5 | 5 |
| Water 7732-18-5 | N | N | N | N | 57 | 60 |

## Volatile Organic Compounds (follows U.S. EPA VOC Data Sheet)

| | | | | | |
|---|---|---|---|---|---|
| **A.** | **Coating Density** | | | 8.47 lb/gal | 1014 g/l |
| **B.** | **Total Volatiles** | | | 67.7 % by wt. | 71.2 % by vol. |
| **C.** | **Federally exempt solvents:** | | | | |
| | | Water | | 57.4 % by wt. | 59.9 % by vol. |
| **D.** | **Organic Volatiles** | | | 10.3 % by wt. | 11.2 % by vol. |
| **E.** | **Percent Non-Volatile** | | | 32.3 % by wt. | 28.8 % by vol. |
| **F.** | **VOC Content** | 0.86 lb/gal | 104 g/l | total | |
| | **1.** | 2.16 lb/gal | 259 g/l | less exempt solvents | |
| | **2.** | 3.01 lb/gal | 361 g/l | of solids | |
| | | 0.31 lb/lb | 0.31 kg/kg | of solids | |

## Hazardous Air Pollutants (Clean Air Act, Section 112(b))

| | | | | |
|---|---|---|---|---|
| **Volatile HAPS** | 0.00 | lb/gal | 0.000 | kg/l |
| | 0.00 | lb/gal | 0.000 | kg/l of solids |
| | 0.00 | lb/lb | 0.00 | kg/kg of solids |

## Air Quality Data

**Density of Organic Solvent Blend**
7.73 lb/gal

**Photochemically Reactive**
No

**Maximum Incremental Reactivity (MIR) (California Air Resources Board Aerosol Products Regulation, MIR Value July 18, 2001)**
Not Available

**Maximum Incremental Reactivity (MIR) (per US EPA Aerosol Ctg Rule)**
1.29

## Waste Disposal

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

**Addition of reducers or other additives to this product may substantially alter the above data. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**

# MATERIAL SAFETY DATA SHEET

**T75F556**
**07 00**

**DATE OF PREPARATION**
Aug 13, 2014

## SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NUMBER**
T75F556
**PRODUCT NAME**
SHER-WOOD® KEM AQUA® Plus Water Reducible Clear Finish, Bright Rubbed Effect
**MANUFACTURER'S NAME**
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

**Telephone Numbers and Websites**

| | |
|---|---|
| **Regulatory Information** | (216) 566-2902 |
| **Medical Emergency** | (216) 566-2917 |
| **Transportation Emergency*** | (800) 424-9300 |
| **for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)* | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

| % by Weight | CAS Number | Ingredient | Units | Vapor Pressure |
|---|---|---|---|---|
| 5 | 34590-94-8 | **2-Methoxymethylethoxypropanol** | | |
| | | ACGIH TLV | 100 ppm (Skin) | 0.4 mm |
| | | ACGIH TLV | 150 ppm (Skin) STEL | |
| | | OSHA PEL | 100 ppm (Skin) | |
| | | OSHA PEL | 150 ppm (Skin) STEL | |
| 5 | 29911-28-2 | **1-(2-Butoxymethylethoxy)-propanol** | | |
| | | ACGIH TLV | Not Available | 0.06 mm |
| | | OSHA PEL | Not Available | |

## SECTION 3 — HAZARDS IDENTIFICATION

**ROUTES OF EXPOSURE**
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

**HMIS Codes**

| | |
|---|---|
| **Health** | 1 |
| **Flammability** | 0 |
| **Reactivity** | 0 |

**EFFECTS OF OVEREXPOSURE**
**EYES:** Irritation.
**SKIN:** Prolonged or repeated exposure may cause irritation.
**INHALATION:** Irritation of the upper respiratory system.

In a confined area vapors in high concentration may cause headache, nausea or dizziness.
**SIGNS AND SYMPTOMS OF OVEREXPOSURE**
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**
None generally recognized.
**CANCER INFORMATION**
For complete discussion of toxicology data refer to Section 11.

## SECTION 4 — FIRST AID MEASURES

**EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
**SKIN:** Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
**INHALATION:** If affected, remove from exposure. Restore breathing. Keep warm and quiet.
**INGESTION:** Do not induce vomiting. Get medical attention immediately.

## SECTION 5 — FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL | FLAMMABILITY CLASSIFICATION |
|---|---|---|---|
| Not Applicable | Not Applicable | Not Applicable | Not Applicable |

**EXTINGUISHING MEDIA**

Carbon Dioxide, Dry Chemical, Alcohol Foam

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

**SPECIAL FIRE FIGHTING PROCEDURES**

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

## SECTION 7 — HANDLING AND STORAGE

**STORAGE CATEGORY**

Not Applicable

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

## SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).

**VENTILATION**

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

**RESPIRATORY PROTECTION**

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

**PROTECTIVE GLOVES**

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

**EYE PROTECTION**

Wear safety spectacles with unperforated sideshields.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **PRODUCT WEIGHT** | 8.47 lb/gal | 1014 g/l |
| **SPECIFIC GRAVITY** | 1.02 | |
| **BOILING POINT** | 212 - 449 °F | 100 - 231 °C |
| **MELTING POINT** | Not Available | |
| **VOLATILE VOLUME** | 71% | |
| **EVAPORATION RATE** | Slower than ether | |
| **VAPOR DENSITY** | Heavier than air | |
| **SOLUBILITY IN WATER** | Not Available | |
| **pH** | 8.5 | |

**VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)**

| | | |
|---|---|---|
| 2.16 lb/gal | 259 g/l | Less Water and Federally Exempt Solvents |
| 0.86 lb/gal | 104 g/l | Emitted VOC |

## SECTION 10 — STABILITY AND REACTIVITY

**STABILITY — Stable**
**CONDITIONS TO AVOID**
None known.
**INCOMPATIBILITY**
None known.
**HAZARDOUS DECOMPOSITION PRODUCTS**
By fire: Carbon Dioxide, Carbon Monoxide
**HAZARDOUS POLYMERIZATION**
Will not occur

## SECTION 11 — TOXICOLOGICAL INFORMATION

**CHRONIC HEALTH HAZARDS**
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
**TOXICOLOGY DATA**

| CAS No. | Ingredient Name | | | |
|---|---|---|---|---|
| **34590-94-8** | **2-Methoxymethylethoxypropanol** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | 5135 mg/kg |
| **29911-28-2** | **1-(2-Butoxymethylethoxy)-propanol** | | | |
| | | LC50 RAT | 4HR | Not Available |
| | | LD50 RAT | | Not Available |

## SECTION 12 — ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION**
No data available.

## SECTION 13 — DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD**
Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

## SECTION 14 — TRANSPORT INFORMATION

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 (ocean, 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.
**US Ground (DOT)**
Not Regulated for Transportation.
**Canada (TDG)**
Not Regulated for Transportation.
**IMO**
Not Regulated for Transportation.
**IATA/ICAO**
Not Regulated for Transportation.

## SECTION 15 — REGULATORY INFORMATION

**SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION**

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---|---|---|---|

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.
**CALIFORNIA PROPOSITION 65**
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
**TSCA CERTIFICATION**
All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

## SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.**