ENVIRONMENTAL DATA SHEET

(Certified Product Data Sheet)

Date of Preparation
Apr 21, 2023

33 00 [1113]

PRODUCT NUMBER

T77F58

PRODUCT NAME

SHER-WOOD® Hi-Bild™ Precat Lacquer, Dull Rubbed Effect

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
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.

Hazard Category (for SARA 311.312)

T77F58 = | Acute | Chronic | Fire |

Product Weight	Specific Gravity	FLASH POINT
7.90 lb/gal	0.95	4 °F PMCC

Volatile Ingredients

Chemical / Compound	SARA 302 EHS	CERCLA	SARA 313 TC	HAPS 112	% by Weight	% by Volume
Ethanol **64-17-5**	N	N	N	N	7	8
2-Propanol **67-63-0**	N	N	N	N	4	5
1-Butanol **71-36-3**	N	Y	Y	N	4	5
2-Methyl-1-propanol **78-83-1**	N	Y	N	N	8	9
Acetone **67-64-1**	N	Y	N	N	8	10
n-Butyl Acetate **123-86-4**	N	Y	N	N	30	32
1-Methoxy-2-Propanol Acetate **108-65-6**	N	N	N	N	5	5

Volatile Organic Compounds - U.S. EPA / Canada

	T77F58	
	LB/Gal	**g/L**
Coating Density	7.90	946
	By wt	**By vol**
Total Volatiles	67.3%	75.5%
Federally exempt solvents		
Water	0.0%	0.0%
Acetone	8.4%	10.0%
Organic Volatiles	58.9%	65.4%
Percent Non-Volatile	32.7%	24.5%
VOC Content	**LB/Gal**	**g/L**
Total	4.65	558
Less exempt solvents	5.17	620
Of solids	18.99	2275
Of solids	1.80 lb/lb	1.80 kg/kg
	By wt	
By wt LVP-VOC	58.7%	

Maximum Incremental Reactivity (MIR) (per US EPA Aerosol Ctg Rule, MIR Values 2009) **0.88**

Volatile Organic Compounds - California

	T77F58	
	LB/Gal	**g/L**
Coating Density	7.90	946
	By wt	**By vol**
Total Volatiles	67.3%	75.5%
Exempt solvents		
Water	0.0%	0.0%
Acetone	8.4%	10.0%
Organic Volatiles	58.9%	65.4%
Percent Non-Volatile	32.7%	24.5%
VOC Content	**LB/Gal**	**g/L**
Total	4.65	558
Less exempt solvents	5.17	620
Of solids	18.99	2275
Of solids	1.80 lb/lb	1.80 kg/kg
	By wt	
By wt LVP-VOC	58.7%	

Maximum Incremental Reactivity (MIR) (per California Air Resources Board Aerosol Products Regulation, MIR Values 2010) **0.84**

Volatile Organic Compounds - South Coast Air Quality Management District, California, US

	T77F58	
	LB/Gal	**g/L**
Coating Density	7.90	946
	By wt	**By vol**
Total Volatiles	67.3%	75.5%
Exempt solvents		
Water	0.0%	0.0%
Acetone	8.4%	10.0%
Organic Volatiles	58.9%	65.4%
Percent Non-Volatile	32.7%	24.5%
VOC Content	**LB/Gal**	**g/L**
Total	4.65	558
Less exempt solvents	5.17	620
Of solids	18.99	2275
Of solids	1.80 lb/lb	1.80 kg/kg

Volatile Organic Compounds - EU Directive 2004/42/EC

	T77F58	
	By wt	**By vol**
Total Volatiles	67.3%	75.5%
VOC Content	**LB/Gal**	**g/L**
Total	5.31	637

Volatile Organic Compounds - EU Directive 2010/75/EU

	T77F58	
	By wt	**By vol**
Total Volatiles	67.3%	75.5%
VOC Content	**LB/Gal**	**g/L**
Total	5.31	637

Volatile Organic Compounds - Mexico

	T77F58	
	LB/Gal	**g/L**
Coating Density	7.90	946
	By wt	**By vol**
Total Volatiles	67.3%	75.5%
Exempt solvents		
Water	0.0%	0.0%
Acetone	8.4%	10.0%
Organic Volatiles	58.9%	65.4%
Percent Non-Volatile	32.7%	24.5%
VOC Content	**LB/Gal**	**g/L**
Total	4.65	558
Less exempt solvents	5.17	620
Of solids	18.99	2275
Of solids	1.80 lb/lb	1.80 kg/kg

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

	T77F58	
	LB/Gal	kg/L
Volatile HAPS	0.00	0.000
Of solids	0.00	0.000
Of solids	0.00 lb/lb	0.00 kg/kg

Air Quality Data

Density of Organic Solvent Blend

7.05 lb/gal

Photochemically Reactive

No

Additional Regulatory Information

US EPA TSCA:

Not Applicable

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

Not Applicable

Waste Disposal

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

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.

SHER-WOOD® Hi-Bild™ Precat Lacquer

Gloss T77C55
Dull Rubbed Effect… T77F58
Bright Rubbed Effect……T77F56
Flat……..T77F59
Medium Rubbed Effect……T77F57
Custom Blend……T77HX Series
Catalyst……..……..V66V3

DESCRIPTION

SHER-WOOD® Hi-Bild™ Precat Lacquer is a fast drying, high performance, clear, conversion lacquer for the general wood finishing market. After catalyzation, it provides a 4 month pot life.

Advantages:

- 20% higher volume solids than traditional precat lacquers.
- Meets KCMA specifications as a self-sealing system or over catalyzed Sher-Wood Vinyl Sealers, T67F3, T67F5 or T67F6
- Fast dry to sanding and packing.
- Contains UV absorber to significantly reduce the discoloration of natural wood from exposure to sunlight.
- Good resistance to household chemicals.
- Good flexibility - passes 20 KCMA cold check cycles.
- Versatile application – may be applied by conventional, airless, air-assisted airless spray.
- Pale water white color.
- Ideal for kitchen cabinets, vanities, chairs, office furniture, household furniture

Air Quality Data:

- Non-photochemically reactive
- Volatile Organic Compounds (VOC) theoretical as packaged, maximum less exempt solvents:
  5.18 lb/gal, 620 g/L. Catalyzed and reduced (R7K305 at 10%)
  5.31 lb/gal 630 g/L
- Volatile Hazardous Air Pollutants (VHAPS) as packaged maximum: Not reportable VHAPS

VOC compliance limits vary from state to state; please consult local Air Quality rules and regulations

An Environmental Data Sheet is available from your local Sherwin-Williams facility, or at www.paintdocs.com.

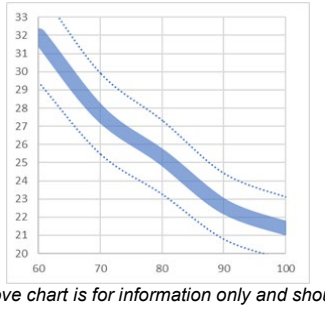
CHARACTERISTICS

Gloss:

Gloss	85+ units
BRE	55-59 units
MRE	34-38 units
DRE	17-21 units
Flat	4-8 units

Volume Solids: 25 ± 2%
Weight Solids: 33 ± 2%

Viscosity:
T77F59: 20-25 seconds #2 Zahn Cup
All others 25-30 seconds #2 Zahn cup



The above chart is for information only and should not be used as product specifications

Recommended film thickness:

Mils Wet	3.0 - 5.0
Mils Dry	0.75 – 1.25

Maximum dry film thickness of the entire system should not exceed 4.0 mils
Spreading Rate (no application loss)
395-580 sq ft/gal @ 0.75-1.25 mils DFT

Drying (77°F, 50% RH):

To Touch:	10-15 minutes
To Handle:	15-20 minutes
To Sand:	30-45 minutes
To Recoat:	30-45 minutes
To Pack:	8 hour minimum
Force Dry:	5-10 minutes at 110- 140°F, then air dry 1 hour minimum to pack
Flash Point:	4°F Pensky-Martens Closed Cup

Mixing Ratio:

1 gallon	Lacquer
3.0 ounces	Catalyst, V66V3

Pot Life: 4 months

Package Life: 2 years, unopened

SPECIFICATIONS

Surface preparation:

Wood - New Work (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%.

Previously finished wood (interior only)**:** Strip old finishes completely and remove all contaminants from the surface. Make sure surface is dry. Finish as new work.

Wood Finishing System:
THIS PRODUCT MUST BE CATALYZED.

1. Color Wood - Stain or tone as desired and dry thoroughly.
2. Seal - Apply Sher-Wood Hi-Bild Precat Lacquer as a sealer or seal with catalyzed Sher-Wood Vinyl Sealers, T67F3, T67F5 or T67F6. (Consult corresponding data page for details). Spray a full wet coat. Air Dry 30 – 45 minutes.
3. Sand - Sand with 240 grit or equivalent. Remove sanding dust.
4. Topcoat - Spray a full wet coat of Sher-Wood Hi-Bild Precat Lacquer at 3.0-5.0 mils wet.
5. For more depth or build, apply an additional coat. **Do not exceed 4.0 mils DFT for the total system**.

Testing: The information, data, and recommendations set forth in this Product Data Sheet are based upon test results believed to be reliable. However, due to the wide variety of substrates, substrate properties, surface preparation methods, equipment and tools, application methods, and environments, the customer should test the complete system for adhesion, compatability and performance prior to full scale application.

continued on back

APPLICATION

Typical Setups

THIS PRODUCT MUST BE CATALYZED
DETERMINE IF IT HAS BEEN CATALYZED. If not catalyzed, add 2.3% (3.0 oz/gal) Sher Wood Hi-Bild Precat Catalyst, V66V3. Pot-life after catalyzation is 4 months. Record the catalyzation date on the container.

Reduction: Product is normally applied without reduction. If reduction is needed to optimize application, use 5-10% HAPS Compliant Lacquer Thinner R7K320, HAPS Free Reducer R7K305, or Acetone R6K9. Lacquer Thinner K120 or K22 may also be used, but are not HAPS compliant.

Retard: To retard, use either MAK R6K30, at 5-10%, EEP R6K35 at 2-5% or 2-Butoxyethanol R6K25, at 1-2% maximum.

Conventional Spray:
Air Pressure ..... 35 - 60 psi
Fluid Pressure..... 6 - 10 psi
Cap/Tip 797
Airless Spray:
Pressure ..... 1500 - 1800 psi
Tip..... .011 - .013"
Air Assisted Airless:
Air Pressure ..... 20 - 30 psi
Fluid Pressure..... 500 - 900 psi
Cap/Tip ..... .011 - .013
HVLP:
Gun.....Binks Mach 1
Atomizing Air Pressure at the cap ..... 9 psi
Fluid Pressure..... 12 psi
Cap/Tip .....97AP Blue Max/94

Cleanup:
Clean tools/equipment immediately after use with HAPS complying Lacquer Thinner, R7K320. Lacquer Thinner K120 or K22 may also be used, but are not HAPS compliant.

Follow manufacturer's safety recommendations when using any solvent.

Performance Tests:
Household Chemicals Test
Using ANSI-KCMA A161.1-2012 test procedures, panels were cured by air drying and allowed to age 10 days at ambient conditions before testing. Tests were conducted on self-sealed (2 coat) finished panels at 2.0 mils total DFT. Materials were washed off with clear water after 24 hours and allowed to recover for 10 days then the finish was examined and the following results noted:
Vinegar ..... no effect
Lemon Juice..... no effect
Orange Juice..... no effect
Grape Juice..... no effect
Tomato Catsup ..... no effect
Coffee @ 115° F ..... no effect
Olive Oil ..... no effect
100 Proof Alcohol..... no effect
Water & Detergent ..... no effect
Mustard (1 hour)..... no effect
Cold Checks 20 cycles.....Pass
Edge Soak .....Pass

ADDITIONAL INFORMATION

- This product **must** be catalyzed with Sher-Wood Hi-Bild Precat Catalyst, V66V3, before use at a level of 2.3% (3.0 oz/gal). Complete cross linking and film properties will not be attained without catalyzation. Product will typically be catalyzed before delivery to the customer.
- This product should be used within 4 months after being catalyzed to obtain optimum properties. The catalyst causes a chemical reaction in the package and dissipates after 4 months, performance properties are downgraded. **Adding additional catalyst does not restore film properties.**
- Store at room temperature (under 80° F) after catalyzation. Higher temperatures will reduce the storage life.
- Self-seal or apply over catalyzed Sher-Wood Vinyl Sealers, T67F3, T67F5 or T67F6 to meet KCMA requirements.
- To achieve optimal results, a minimum of 2 mils DFT is required.
- Total film thickness of systems must not exceed 4 mils DFT because heavier films may show cracking and checking tendencies.
- For interior use only.
- Sher-Wood Hi-Bild Precat Catalyst, V66V3 is an acid. To prevent acid corrosion and pitting, all equipment should be made of stainless steel. Containers should be stainless steel or plastic.
- Do not catalyze with other acid catalysts because of fast reactivity and pot life issues.
- Maximum cure and chemical resistance is attained after 10 days air drying.
- Natural wood will change color by itself and clear wood finishes will not keep this from occurring.
- To maintain HAPS compliance, only reduce with HAPS compliant reducers.
- Sher-Wood Hi-Bild Precat Lacquer will yellow over time. With wood tone stains, this yellowing actually makes a warmer, softer appearance. Where white stains, pickled finishes, or white basecoats are used, nitrocellulose lacquer should not be used because of the yellowing of the sealer and topcoat may be considered objectionable. For these applications, Sher-Wood Acrylic Conversion Coating is recommended.

CAUTIONS

FOR INDUSTRIAL SHOP APPLICATION ONLY

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

To obtain the most current version of the Environmental Data Sheet (EDS), Product Data Sheet (PDS), or Safety Data Sheet (SDS) please visit your local Sherwin-Williams facility or www.paintdocs.com.

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

Note: All purchases of products from Sherwin-Williams are exclusively subject to Sherwin-Williams' terms and conditions of sale which can be found by following this link (click here) Please review these terms and conditions prior to the purchase of the products.

Sherwin-Williams warrants the product to be free of manufacturing defect in accordance with Sherwin-Williams' quality control procedures. Except for the preceding sentence, due to factors that are outside of Sherwin-Williams' control, including substrate selection, and customer handling, preparation, and application, Sherwin-Williams cannot make any other warranties related to the product or the performance of the product. **SHERWIN-WILLIAMS DISCLAIMS ALL WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

Liability for products proven to be defectively manufactured will be limited solely to replacement of the defective product or the refund of the purchase price paid for the defective product, as determined by Sherwin-Williams. Under no circumstances shall Sherwin-Williams be liable for indirect, special, incidental or consequential damages, lost profits or punitive dam- ages arising from any cause whatsoever.

SAFETY DATA SHEET

T77F58

Section 1. Identification

Product name : SHER-WOOD® Hi-Bild™ Precat Lacquer
Dull Rubbed Effect

Product code : T77F58

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 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Product Information Telephone Number : US / Canada: 866-722-9710
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 800-00-214-00 / 55-5559-1588 Available 24 hours and 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 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
CARCINOGENICITY - Category 1A
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) - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 4.3% (oral), 19.4% (dermal), 18.7% (inhalation)

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Highly flammable liquid and vapor.
Causes skin irritation.
Causes serious eye damage.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause cancer.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash thoroughly after handling.

Response : IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of water. If skin irritation 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. Immediately call a POISON CENTER or doctor.

Storage : Store locked up. Store in a well-ventilated place. Keep container tightly closed. 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. Contains Formaldehyde - a potential cancer hazard.

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
n-Butyl Acetate	≥25 - ≤50	123-86-4
Acetone	≤10	67-64-1
Cellulose Nitrate	≤10	9004-70-0
2-Methyl-1-propanol	≤10	78-83-1
Ethanol	≤10	64-17-5
2-methoxy-1-methylethyl acetate	≤10	108-65-6
1-Butanol	≤5	71-36-3
2-Propanol	≤5	67-63-0
Isobutylated Urea-Formaldehyde Polymer	≤3	68002-18-6
Light Aromatic Hydrocarbons	≤0.3	64742-95-6

Section 3. Composition/information on ingredients

Heavy Aliphatic Solvent	≤0.3	64742-82-1
trimethylbenzene	≤0.3	25551-13-7
Formaldehyde (max.)	<0.1	50-00-0

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 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of 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. 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. 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.

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.

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

Over-exposure signs/symptoms

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

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

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

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

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 : Highly 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
nitrogen 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. 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.

Remark : Flammable liquid.

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 : Contains a formaldehyde-based resin which, under certain conditions of use, may release formaldehyde. Put on appropriate personal protective equipment (see Section 8). 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 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.

Section 7. Handling and storage

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
n-Butyl Acetate	123-86-4	**NIOSH REL (United States, 10/2020).** 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, 1/2022). [Butyl acetates]** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.
Acetone	67-64-1	**ACGIH TLV (United States, 1/2022).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2020).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Cellulose Nitrate	9004-70-0	None.
2-Methyl-1-propanol	78-83-1	**ACGIH TLV (United States, 1/2022).** TWA: 50 ppm 8 hours. TWA: 152 mg/m³ 8 hours. **NIOSH REL (United States, 10/2020).** TWA: 50 ppm 10 hours. TWA: 150 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.
Ethanol	64-17-5	**ACGIH TLV (United States, 1/2022).** STEL: 1000 ppm 15 minutes. **NIOSH REL (United States, 10/2020).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.
2-methoxy-1-methylethyl acetate	108-65-6	**OARS WEEL (United States, 1/2021).** TWA: 50 ppm 8 hours.
1-Butanol	71-36-3	**ACGIH TLV (United States, 1/2022).**

Section 8. Exposure controls/personal protection

		TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2020). Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.
2-Propanol	67-63-0	**ACGIH TLV (United States, 1/2022).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **NIOSH REL (United States, 10/2020).** TWA: 400 ppm 10 hours. TWA: 980 mg/m³ 10 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes. **OSHA PEL (United States, 5/2018).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours.
Isobutylated Urea-Formaldehyde Polymer	68002-18-6	None.
Light Aromatic Hydrocarbons	64742-95-6	None.
Heavy Aliphatic Solvent	64742-82-1	None.
trimethylbenzene	25551-13-7	**ACGIH TLV (United States, 1/2022). [trimethyl benzene, isomers]** TWA: 10 ppm 8 hours. TWA: 123 mg/m³ 8 hours.
Formaldehyde (max.)	50-00-0	**OSHA PEL Z2 (United States, 2/2013).** TWA: 0.75 ppm 8 hours. STEL: 2 ppm 15 minutes. **NIOSH REL (United States, 10/2020).** TWA: 0.016 ppm 10 hours. CEIL: 0.1 ppm 15 minutes. **OSHA PEL (United States, 5/2018).** TWA: 0.75 ppm 8 hours. STEL: 2 ppm 15 minutes. **ACGIH TLV (United States, 1/2022). Skin sensitizer. Inhalation sensitizer.** STEL: 0.3 ppm 15 minutes. TWA: 0.1 ppm 8 hours.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
n-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 Saskatchewan Provincial (Canada, 7/2013).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours. **CA Ontario Provincial (Canada, 6/2019). [butyl acetates, all isomers]** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours. **CA British Columbia Provincial (Canada,**

		3/2022). [butyl acetate, all isomers] STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours. **CA Quebec Provincial (Canada, 6/2021). [butyl acetates]** STEV: 150 ppm 15 minutes. TWAEV: 50 ppm 8 hours.
acetone	67-64-1	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 3/2022).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 6/2019).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Quebec Provincial (Canada, 6/2021).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Isobutyl alcohol	78-83-1	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 152 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 3/2022).** TWA: 50 ppm 8 hours. **CA Ontario Provincial (Canada, 6/2019).** TWA: 50 ppm 8 hours. **CA Quebec Provincial (Canada, 6/2021).** TWAEV: 50 ppm 8 hours. TWAEV: 152 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Ethyl alcohol	64-17-5	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 1000 ppm 8 hours. 8 hrs OEL: 1880 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 3/2022).** STEL: 1000 ppm 15 minutes. **CA Ontario Provincial (Canada, 6/2019).** STEL: 1000 ppm 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 6/2021).** STEV: 1000 ppm 15 minutes.

Section 8. Exposure controls/personal protection

Normal butyl alcohol	71-36-3	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 60 mg/m³ 8 hours. 8 hrs OEL: 20 ppm 8 hours. **CA British Columbia Provincial (Canada, 3/2022).** TWA: 15 ppm 8 hours. C: 30 ppm **CA Ontario Provincial (Canada, 6/2019).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 6/2021). Absorbed through skin.** STEV: 50 ppm 15 minutes. STEV: 152 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 30 ppm 15 minutes. TWA: 20 ppm 8 hours.
Isopropyl alcohol	67-63-0	**CA Alberta Provincial (Canada, 6/2018).** 15 min OEL: 984 mg/m³ 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 15 min OEL: 400 ppm 15 minutes. 8 hrs OEL: 492 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 3/2022).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **CA Ontario Provincial (Canada, 6/2019).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **CA Quebec Provincial (Canada, 6/2021).** TWAEV: 400 ppm 8 hours. TWAEV: 983 mg/m³ 8 hours. STEV: 500 ppm 15 minutes. STEV: 1230 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours.

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
n-Butyl Acetate	123-86-4	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes.
Acetone	67-64-1	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes.
2-methylpropan-1-ol	78-83-1	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 50 ppm 8 hours.
ethanol	64-17-5	**NOM-010-STPS-2014 (Mexico, 4/2016).** STEL: 1000 ppm 15 minutes.
1-Butanol	71-36-3	**NOM-010-STPS-2014 (Mexico, 4/2016). Absorbed through skin.** TWA: 20 ppm 8 hours.
2-Propanol	67-63-0	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 200 ppm 8 hours.

Section 8. Exposure controls/personal protection

		STEL: 400 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. 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.

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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Section 9. Physical and chemical properties

Boiling point, initial boiling point, and boiling range : 55°C (131°F)

Flash point : Closed cup: -16°C (3.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability : Flammable liquid.

Lower and upper explosion limit/flammability limit : Lower: 1.2%
Upper: 19%

Vapor pressure : 24 kPa (180 mm Hg)

Relative vapor density : 1.5 [Air = 1]

Relative density : 0.95

Solubility(ies) :

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): >20.5 mm^2/s (>20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Heat of combustion : 19.199 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

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

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
n-Butyl Acetate	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Cellulose Nitrate	LD50 Oral	Rat	>5 g/kg	-
2-Methyl-1-propanol	LC50 Inhalation Vapor	Rat	19200 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	2460 mg/kg	-
Ethanol	LC50 Inhalation Vapor	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-
2-methoxy-1-methylethyl acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
2-Propanol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Isobutylated Urea-Formaldehyde Polymer	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-
Light Aromatic Hydrocarbons	LD50 Oral	Rat	8400 mg/kg	-
trimethylbenzene	LD50 Oral	Rat	8970 mg/kg	-
Formaldehyde (max.)	LC50 Inhalation Gas.	Rat	250 ppm	4 hours
	LD50 Dermal	Rabbit	270 mg/kg	-
	LD50 Oral	Rat	100 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-Butyl Acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Acetone	Eyes - Mild irritant	Human	-	186300 ppm	-
	Eyes - Mild irritant	Rabbit	-	10 uL	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Rabbit	-	395 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	100 uL	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	400 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	0.005 Ml	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
2-Propanol	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-

	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
Isobutylated Urea-Formaldehyde Polymer	Eyes - Severe irritant	Rabbit	-	24 hours 100 uL	-
Light Aromatic Hydrocarbons	Eyes - Mild irritant	Rabbit	-	24 hours 100 uL	-
trimethylbenzene	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Formaldehyde (max.)	Eyes - Mild irritant	Human	-	6 minutes 1 ppm	-
	Eyes - Severe irritant	Rabbit	-	24 hours 750 ug	-
	Eyes - Severe irritant	Rabbit	-	750 ug	-
	Skin - Mild irritant	Human	-	72 hours 150 ug l	-
	Skin - Mild irritant	Rabbit	-	540 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 50 mg	-
	Skin - Severe irritant	Human	-	0.01 %	-
	Skin - Severe irritant	Rabbit	-	0.8 %	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 mg	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Ethanol	-	1	-
2-Propanol	-	3	-
Formaldehyde (max.)	+	1	Known to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
n-Butyl Acetate	Category 3	-	Narcotic effects
Acetone	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
2-Methyl-1-propanol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Ethanol	Category 3	-	Respiratory tract irritation

	Category 3		Narcotic effects
2-methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects
1-Butanol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
2-Propanol	Category 3	-	Narcotic effects
Light Aromatic Hydrocarbons	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Heavy Aliphatic Solvent	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Formaldehyde (max.)	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	-	-
2-Methyl-1-propanol	Category 2	-	-
Ethanol	Category 2	-	-
1-Butanol	Category 2	-	-
Light Aromatic Hydrocarbons	Category 2	-	-
Heavy Aliphatic Solvent	Category 1	-	central nervous system (CNS)
Formaldehyde (max.)	Category 2	-	-

Aspiration hazard

Name	Result
Light Aromatic Hydrocarbons	ASPIRATION HAZARD - Category 1
Heavy Aliphatic Solvent	ASPIRATION HAZARD - Category 1
trimethylbenzene	ASPIRATION HAZARD - Category 1

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.

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

Section 11. Toxicological information

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

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 : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	10826.28 mg/kg
Dermal	23146.27 mg/kg
Inhalation (vapors)	205.71 mg/l

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
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
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 4.42589 ml/L Marine water	Crustaceans - Acartia tonsa - Copepodid	48 hours
	Acute LC50 7460000 µg/l Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
2-Methyl-1-propanol	Acute LC50 600 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 1030000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1330000 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 4 mg/l Fresh water	Daphnia - Daphnia magna	21 days
Ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia franciscana - Larvae	48 hours
	Acute LC50 42000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 100 ul/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks
1-Butanol	Acute EC50 1983 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
2-Propanol	Acute EC50 7550 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
trimethylbenzene	Acute LC50 5600 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
Formaldehyde (max.)	Acute EC50 3.48 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 0.442 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 3.26 mg/l Fresh water	Daphnia - Daphnia magna - Embryo	48 hours
	Acute LC50 11.41 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 1.41 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.005 mg/l Marine water	Algae - Isochrysis galbana - Exponential growth phase	96 hours
	Chronic NOEC 3000 ppm Fresh water	Crustaceans - Astacus astacus - Egg	21 days
	Chronic NOEC 1.56 mg/l Fresh water	Fish - Oreochromis niloticus - Fingerling	12 weeks

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
n-Butyl Acetate	-	-	Readily
Acetone	-	-	Readily
2-Methyl-1-propanol	-	-	Readily
Ethanol	-	-	Readily
1-Butanol	-	-	Readily
2-Propanol	-	-	Readily
Light Aromatic Hydrocarbons	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Light Aromatic Hydrocarbons	-	10 to 2500	high
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	II	II	II	II	II

Section 14. Transport information

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
	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 IMO instruments : Not available.

Proper shipping name : 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

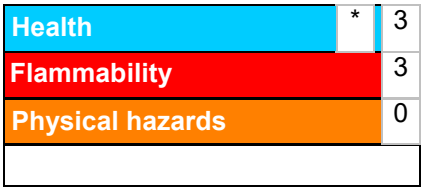
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

International regulations

International lists :
Australia inventory (AIIC): Not determined.
China inventory (IECSC): Not determined.
Japan inventory (CSCL): 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.)



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
FLAMMABLE LIQUIDS - Category 2	On basis of test data
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	Calculation method
CARCINOGENICITY - Category 1A	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) - Category 2	Calculation method

History

Date of printing : 4/21/2023

Date of issue/Date of revision : 4/21/2023

Date of previous issue : 4/3/2023

Version : 24.03

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

Section 16. Other information

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.

ENVIRONMENTAL DATA SHEET

(Certified Product Data Sheet)

Date of Preparation
Jun 26, 2021

03 00 [1761]

PRODUCT NUMBER

V66V3

PRODUCT NAME

SHER-WOOD® Hi-Bild™ Precat Catalyst

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
101 W. Prospect Avenue
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.

Hazard Category (for SARA 311.312)

V66V3 = | Acute | Chronic | Fire |

Product Weight	Specific Gravity	FLASH POINT
8.05 lb/gal	0.97	81 °F PMCC

Volatile Ingredients

Chemical / Compound	SARA 302 EHS	CERCLA	SARA 313 TC	HAPS 112	% by Weight	% by Volume
1-Butanol 71-36-3	N	Y	Y	N	2	2
n-Butyl Acetate 123-86-4	N	Y	N	N	58	63

Volatile Organic Compounds - U.S. EPA / Canada

	V66V3	
	LB/Gal	**g/L**
Coating Density	8.05	964
	By wt	**By vol**
Total Volatiles	59.3%	65.6%
Federally exempt solvents		
Water	0.0%	0.0%
Organic Volatiles	59.3%	65.6%
Percent Non-Volatile	40.7%	34.4%
VOC Content	**LB/Gal**	**g/L**
Total	4.77	572
Less exempt solvents	4.77	572
Of solids	13.86	1661
Of solids	1.45 lb/lb	1.45 kg/kg
	By wt	
By wt LVP-VOC	59.3%	

Maximum Incremental Reactivity (MIR) (per US EPA Aerosol Ctg Rule, MIR Values 2009) **0.57**

Volatile Organic Compounds - California

	V66V3	
	LB/Gal	g/L
Coating Density	8.05	964
	By wt	By vol
Total Volatiles	59.3%	65.6%
Exempt solvents		
Water	0.0%	0.0%
Organic Volatiles	59.3%	65.6%
Percent Non-Volatile	40.7%	34.4%
VOC Content	LB/Gal	g/L
Total	4.77	572
Less exempt solvents	4.77	572
Of solids	13.86	1661
Of solids	1.45 lb/lb	1.45 kg/kg
	By wt	
By wt LVP-VOC	59.3%	

Maximum Incremental Reactivity (MIR) (per California Air Resources Board Aerosol Products Regulation, MIR Values 2010) **0.52**

Volatile Organic Compounds - South Coast Air Quality Management District, California, US

	V66V3	
	LB/Gal	g/L
Coating Density	8.05	964
	By wt	By vol
Total Volatiles	59.3%	65.6%
Exempt solvents		
Water	0.0%	0.0%
Organic Volatiles	59.3%	65.6%
Percent Non-Volatile	40.7%	34.4%
VOC Content	LB/Gal	g/L
Total	4.77	572
Less exempt solvents	4.77	572
Of solids	13.86	1661
Of solids	1.45 lb/lb	1.45 kg/kg

Volatile Organic Compounds - EU Directive 2004/42/EC

	V66V3	
	By wt	By vol
Total Volatiles	59.3%	65.6%
VOC Content	LB/Gal	g/L
Total	4.77	572

Volatile Organic Compounds - EU Directive 2010/75/EU

	V66V3	
	By wt	By vol
Total Volatiles	59.3%	65.6%
VOC Content	LB/Gal	g/L
Total	4.77	572

Volatile Organic Compounds - Mexico

	V66V3	
	LB/Gal	g/L
Coating Density	8.05	964
	By wt	By vol
Total Volatiles	59.3%	65.6%
Exempt solvents		
Water	0.0%	0.0%
Organic Volatiles	59.3%	65.6%
Percent Non-Volatile	40.7%	34.4%
VOC Content	LB/Gal	g/L
Total	4.77	572
Less exempt solvents	4.77	572
Of solids	13.86	1661
Of solids	1.45 lb/lb	1.45 kg/kg

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

	V66V3	
	LB/Gal	kg/L
Volatile HAPS	0.00	0.000
Of solids	0.00	0.000
Of solids	0.00 lb/lb	0.00 kg/kg

Air Quality Data

Density of Organic Solvent Blend

7.28 lb/gal

Photochemically Reactive

No

Additional Regulatory Information

US EPA TSCA:

Not Applicable

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

Not Applicable

Waste Disposal

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

SHER-WOOD® Hi-Bild™ Precat Lacquer

Gloss T77C55
Dull Rubbed Effect… T77F58
Bright Rubbed Effect……T77F56
Flat……..T77F59
Medium Rubbed Effect……T77F57
Custom Blend……T77HX Series
Catalyst……..……..V66V3

DESCRIPTION

SHER-WOOD® Hi-Bild™ Precat Lacquer is a fast drying, high performance, clear, conversion lacquer for the general wood finishing market. After catalyzation, it provides a 4 month pot life.

Advantages:

- 20% higher volume solids than traditional precat lacquers.
- Meets KCMA specifications as a self-sealing system or over catalyzed Sher-Wood Vinyl Sealers, T67F3, T67F5 or T67F6
- Fast dry to sanding and packing.
- Contains UV absorber to significantly reduce the discoloration of natural wood from exposure to sunlight.
- Good resistance to household chemicals.
- Good flexibility - passes 20 KCMA cold check cycles.
- Versatile application – may be applied by conventional, airless, air-assisted airless spray.
- Pale water white color.
- Ideal for kitchen cabinets, vanities, chairs, office furniture, household furniture

Air Quality Data:

- Non-photochemically reactive
- Volatile Organic Compounds (VOC) theoretical as packaged, maximum less exempt solvents:
  5.18 lb/gal, 620 g/L. Catalyzed and reduced (R7K305 at 10%)
  5.31 lb/gal 630 g/L
- Volatile Hazardous Air Pollutants (VHAPS) as packaged maximum: Not reportable VHAPS

VOC compliance limits vary from state to state; please consult local Air Quality rules and regulations

An Environmental Data Sheet is available from your local Sherwin-Williams facility, or at www.paintdocs.com.

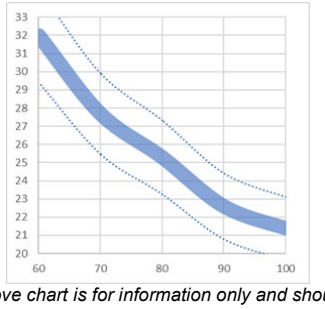
CHARACTERISTICS

Gloss:

Gloss	85+ units
BRE	55-59 units
MRE	34-38 units
DRE	17-21 units
Flat	4-8 units

Volume Solids: 25 ± 2%
Weight Solids: 33 ± 2%

Viscosity:
T77F59: 20-25 seconds #2 Zahn Cup
All others 25-30 seconds #2 Zahn cup



The above chart is for information only and should not be used as product specifications

Recommended film thickness:

Mils Wet	3.0 - 5.0
Mils Dry	0.75 – 1.25

Maximum dry film thickness of the entire system should not exceed 4.0 mils
Spreading Rate (no application loss)
395-580 sq ft/gal @ 0.75-1.25 mils DFT

Drying (77°F, 50% RH):

To Touch:	10-15 minutes
To Handle:	15-20 minutes
To Sand:	30-45 minutes
To Recoat:	30-45 minutes
To Pack:	8 hour minimum
Force Dry:	5-10 minutes at 110- 140°F, then air dry 1 hour minimum to pack
Flash Point:	4°F Pensky-Martens Closed Cup

Mixing Ratio:

1 gallon	Lacquer
3.0 ounces	Catalyst, V66V3

Pot Life: 4 months

Package Life: 2 years, unopened

SPECIFICATIONS

Surface preparation:

Wood - New Work (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%.

Previously finished wood (interior only)**:** Strip old finishes completely and remove all contaminants from the surface. Make sure surface is dry. Finish as new work.

Wood Finishing System:
THIS PRODUCT MUST BE CATALYZED.

1. Color Wood - Stain or tone as desired and dry thoroughly.
2. Seal - Apply Sher-Wood Hi-Bild Precat Lacquer as a sealer or seal with catalyzed Sher-Wood Vinyl Sealers, T67F3, T67F5 or T67F6. (Consult corresponding data page for details). Spray a full wet coat. Air Dry 30 – 45 minutes.
3. Sand - Sand with 240 grit or equivalent. Remove sanding dust.
4. Topcoat - Spray a full wet coat of Sher-Wood Hi-Bild Precat Lacquer at 3.0-5.0 mils wet.
5. For more depth or build, apply an additional coat. **Do not exceed 4.0 mils DFT for the total system**.

Testing: The information, data, and recommendations set forth in this Product Data Sheet are based upon test results believed to be reliable. However, due to the wide variety of substrates, substrate properties, surface preparation methods, equipment and tools, application methods, and environments, the customer should test the complete system for adhesion, compatability and performance prior to full scale application.

continued on back

APPLICATION

Typical Setups

THIS PRODUCT MUST BE CATALYZED
DETERMINE IF IT HAS BEEN CATALYZED. If not catalyzed, add 2.3% (3.0 oz/gal) Sher Wood Hi-Bild Precat Catalyst, V66V3. Pot-life after catalyzation is 4 months. Record the catalyzation date on the container.

Reduction: Product is normally applied without reduction. If reduction is needed to optimize application, use 5-10% HAPS Compliant Lacquer Thinner R7K320, HAPS Free Reducer R7K305, or Acetone R6K9. Lacquer Thinner K120 or K22 may also be used, but are not HAPS compliant.

Retard: To retard, use either MAK R6K30, at 5-10%, EEP R6K35 at 2-5% or 2-Butoxyethanol R6K25, at 1-2% maximum.

Conventional Spray:
Air Pressure ..... 35 - 60 psi
Fluid Pressure..... 6 - 10 psi
Cap/Tip 797
Airless Spray:
Pressure ..... 1500 - 1800 psi
Tip..... .011 - .013"
Air Assisted Airless:
Air Pressure ..... 20 - 30 psi
Fluid Pressure..... 500 - 900 psi
Cap/Tip ..... .011 - .013
HVLP:
Gun.....Binks Mach 1
Atomizing Air Pressure at the cap ..... 9 psi
Fluid Pressure..... 12 psi
Cap/Tip .....97AP Blue Max/94

Cleanup:
Clean tools/equipment immediately after use with HAPS complying Lacquer Thinner, R7K320. Lacquer Thinner K120 or K22 may also be used, but are not HAPS compliant.

Follow manufacturer's safety recommendations when using any solvent.

Performance Tests:
Household Chemicals Test
Using ANSI-KCMA A161.1-2012 test procedures, panels were cured by air drying and allowed to age 10 days at ambient conditions before testing. Tests were conducted on self-sealed (2 coat) finished panels at 2.0 mils total DFT. Materials were washed off with clear water after 24 hours and allowed to recover for 10 days then the finish was examined and the following results noted:
Vinegar ..... no effect
Lemon Juice..... no effect
Orange Juice..... no effect
Grape Juice..... no effect
Tomato Catsup ..... no effect
Coffee @ 115° F ..... no effect
Olive Oil ..... no effect
100 Proof Alcohol..... no effect
Water & Detergent ..... no effect
Mustard (1 hour)..... no effect
Cold Checks 20 cycles.....Pass
Edge Soak .....Pass

ADDITIONAL INFORMATION

- This product **must** be catalyzed with Sher-Wood Hi-Bild Precat Catalyst, V66V3, before use at a level of 2.3% (3.0 oz/gal). Complete cross linking and film properties will not be attained without catalyzation. Product will typically be catalyzed before delivery to the customer.
- This product should be used within 4 months after being catalyzed to obtain optimum properties. The catalyst causes a chemical reaction in the package and dissipates after 4 months, performance properties are downgraded. **Adding additional catalyst does not restore film properties.**
- Store at room temperature (under 80° F) after catalyzation. Higher temperatures will reduce the storage life.
- Self-seal or apply over catalyzed Sher-Wood Vinyl Sealers, T67F3, T67F5 or T67F6 to meet KCMA requirements.
- To achieve optimal results, a minimum of 2 mils DFT is required.
- Total film thickness of systems must not exceed 4 mils DFT because heavier films may show cracking and checking tendencies.
- For interior use only.
- Sher-Wood Hi-Bild Precat Catalyst, V66V3 is an acid. To prevent acid corrosion and pitting, all equipment should be made of stainless steel. Containers should be stainless steel or plastic.
- Do not catalyze with other acid catalysts because of fast reactivity and pot life issues.
- Maximum cure and chemical resistance is attained after 10 days air drying.
- Natural wood will change color by itself and clear wood finishes will not keep this from occurring.
- To maintain HAPS compliance, only reduce with HAPS compliant reducers.
- Sher-Wood Hi-Bild Precat Lacquer will yellow over time. With wood tone stains, this yellowing actually makes a warmer, softer appearance. Where white stains, pickled finishes, or white basecoats are used, nitrocellulose lacquer should not be used because of the yellowing of the sealer and topcoat may be considered objectionable. For these applications, Sher-Wood Acrylic Conversion Coating is recommended.

CAUTIONS

FOR INDUSTRIAL SHOP APPLICATION ONLY

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

To obtain the most current version of the Environmental Data Sheet (EDS), Product Data Sheet (PDS), or Safety Data Sheet (SDS) please visit your local Sherwin-Williams facility or www.paintdocs.com.

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

Note: All purchases of products from Sherwin-Williams are exclusively subject to Sherwin-Williams' terms and conditions of sale which can be found by following this link (click here) Please review these terms and conditions prior to the purchase of the products.

Sherwin-Williams warrants the product to be free of manufacturing defect in accordance with Sherwin-Williams' quality control procedures. Except for the preceding sentence, due to factors that are outside of Sherwin-Williams' control, including substrate selection, and customer handling, preparation, and application, Sherwin-Williams cannot make any other warranties related to the product or the performance of the product. **SHERWIN-WILLIAMS DISCLAIMS ALL WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

Liability for products proven to be defectively manufactured will be limited solely to replacement of the defective product or the refund of the purchase price paid for the defective product, as determined by Sherwin-Williams. Under no circumstances shall Sherwin-Williams be liable for indirect, special, incidental or consequential damages, lost profits or punitive dam- ages arising from any cause whatsoever.

SAFETY DATA SHEET

V66V3

Section 1. Identification

Product name : SHER-WOOD® Hi-Bild™ Precat Catalyst

Product code : V66V3

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 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Product Information Telephone Number : US / Canada: 866-722-9710
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 800-00-214-00 / 55-5559-1588 Available 24 hours and 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 1B
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 18.2% (oral), 39.8% (dermal), 39.8% (inhalation)

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Flammable liquid and vapor.
Causes severe skin burns and eye damage.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash thoroughly after handling.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. 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 doctor.

Storage : Store locked up. Store in a well-ventilated place. Keep container tightly closed. 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. FOR INDUSTRIAL USE ONLY. This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

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
n-Butyl Acetate	≥50 - ≤75	123-86-4
Phosphoric Acid Ester	≥10 - ≤25	107-66-4
n-Butyl Acid Phosphate	≥10 - ≤25	1623-15-0
1-Butanol	≤3	71-36-3

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 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. Flush contaminated skin with plenty of 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. 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. 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.

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.

Skin contact : Causes severe burns.

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:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Section 4. First aid measures

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
phosphorus 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. 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.

Remark : Flammable liquid.

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).

Section 6. Accidental release measures

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). 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)

Section 8. Exposure controls/personal protection

Ingredient name	CAS #	Exposure limits
n-Butyl Acetate	123-86-4	**NIOSH REL (United States, 10/2020).** 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, 1/2022). [Butyl acetates]** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.
Phosphoric Acid Ester	107-66-4	**NIOSH REL (United States, 10/2020).** TWA: 1 ppm 10 hours. TWA: 5 mg/m³ 10 hours. STEL: 2 ppm 15 minutes. STEL: 10 mg/m³ 15 minutes. **OSHA PEL (United States, 5/2018).** TWA: 1 ppm 8 hours. TWA: 5 mg/m³ 8 hours. **ACGIH TLV (United States, 1/2022).** **Absorbed through skin.** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction and vapor
n-Butyl Acid Phosphate	1623-15-0	None.
1-Butanol	71-36-3	**ACGIH TLV (United States, 1/2022).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2020).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 5/2018).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
n-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 Saskatchewan Provincial (Canada, 7/2013).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours. **CA Ontario Provincial (Canada, 6/2019). [butyl acetates, all isomers]** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours. **CA British Columbia Provincial (Canada, 3/2022). [butyl acetate, all isomers]** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours. **CA Quebec Provincial (Canada, 6/2021).**

Section 8. Exposure controls/personal protection

		[butyl acetates] STEV: 150 ppm 15 minutes. TWAEV: 50 ppm 8 hours.
Dibutyl phosphate	107-66-4	**CA Ontario Provincial (Canada, 6/2019). Absorbed through skin.** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction and vapour. **CA Quebec Provincial (Canada, 6/2021). Absorbed through skin.** TWAEV: 5 mg/m³ 8 hours. Form: inhalable dust and vapor fraction **CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 1 ppm 8 hours. 15 min OEL: 17 mg/m³ 15 minutes. 15 min OEL: 2 ppm 15 minutes. 8 hrs OEL: 8.6 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 3/2022). Absorbed through skin.** TWA: 1 ppm 8 hours. STEL: 2 ppm 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 2 ppm 15 minutes. TWA: 1 ppm 8 hours.
Normal butyl alcohol	71-36-3	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 60 mg/m³ 8 hours. 8 hrs OEL: 20 ppm 8 hours. **CA British Columbia Provincial (Canada, 3/2022).** TWA: 15 ppm 8 hours. C: 30 ppm **CA Ontario Provincial (Canada, 6/2019).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 6/2021). Absorbed through skin.** STEV: 50 ppm 15 minutes. STEV: 152 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 30 ppm 15 minutes. TWA: 20 ppm 8 hours.

Occupational exposure limits (Mexico)

	CAS #	Exposure limits
n-Butyl Acetate	123-86-4	**NOM-010-STPS-2014 (Mexico, 4/2016).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes.
Phosphoric Acid Ester	107-66-4	**NOM-010-STPS-2014 (Mexico, 4/2016). Absorbed through skin.** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction and vapor
1-Butanol	71-36-3	**NOM-010-STPS-2014 (Mexico, 4/2016). Absorbed through skin.** TWA: 20 ppm 8 hours.

Section 8. Exposure controls/personal protection

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. 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.

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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point, initial boiling point, and boiling range : 117°C (242.6°F)

Section 9. Physical and chemical properties

Flash point : Closed cup: 27°C (80.6°F) [Pensky-Martens Closed Cup]

Evaporation rate : 1 (butyl acetate = 1)

Flammability : Flammable liquid.

Lower and upper explosion limit/flammability limit : Lower: 1.38%
Upper: 11.2%

Vapor pressure : 1.3 kPa (10 mm Hg)

Relative vapor density : 2.55 [Air = 1]

Relative density : 0.96

Solubility(ies) :

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): >20.5 mm^2/s (>20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Heat of combustion : 33.923 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

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

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
n-Butyl Acetate	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
Phosphoric Acid Ester	LD50 Oral	Rat	3200 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-Butyl Acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Phosphoric Acid Ester	Eyes - Severe irritant	Rabbit	-	100 uL	-
	Skin - Severe irritant	Rabbit	-	8 hours 500 uL	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	0.005 Ml	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
n-Butyl Acetate	Category 3	-	Narcotic effects
1-Butanol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
1-Butanol	Category 2	-	-

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Section 11. Toxicological information

Potential acute health effects

Eye contact : Causes serious eye damage.

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

Skin contact : Causes severe burns.

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:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

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 : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

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

Route	ATE value
Oral	9190.48 mg/kg
Dermal	120706.27 mg/kg

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
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
Phosphoric Acid Ester	Chronic NOEC 1.3 mg/l Fresh water	Daphnia - Daphnia magna	21 days
1-Butanol	Acute EC50 1983 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
n-Butyl Acetate	-	-	Readily
1-Butanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Phosphoric Acid Ester	-	<7	low

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

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN3469	UN3469	UN3469	UN3469	UN3469
UN proper shipping name	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE
Transport hazard class(es)	3 (8) 	3 (8) 	3 (8) 	3 (8) 	3 (8) 
Packing group	III	III	III	III	III
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 132	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.40-2.42 (Class 8). **ERG No.** 132	- **ERG No.** 132	-	**Emergency schedules** F-E, S-C

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

SARA 313

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

California Prop. 65

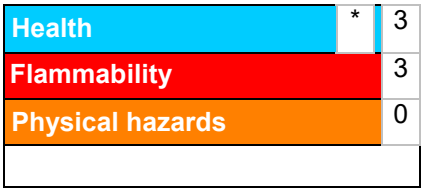
Not applicable.

International regulations

International lists : **Australia inventory (AIIC)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory (CSCL): 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.)



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
FLAMMABLE LIQUIDS - Category 3	On basis of test data
SKIN CORROSION/IRRITATION - Category 1B	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

History

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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.