SAFETY DATA SHEET

United States

Cablelite® 751-009 Yellow

Section 1. Identification

GHS product identifier	:	Cablelite® 751-009 Yellow
Other means of identification	:	Not available.
Product type	:	Liquid.
Material uses	:	UV-curable coatings, inks and matrix materials.
Supplier	:	Covestro Desotech Inc. 1122 St Charles Street Elgin IL 60120 Tel: +1 (847) 697-0400
e-mail address of person responsible for this SDS	:	resins.SDS@covestro.com
Emergency telephone number	:	+1-800-424-9300

Section 2. Hazards identification

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

Classification of the substance or mixture :
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 1B

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H351 - Suspected of causing cancer.
H360 - May damage fertility or the unborn child.

Precautionary statements

Prevention :
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P261 - Avoid breathing vapor.
P264 - Wash hands thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.

Response :
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Do not taste or swallow. Wash thoroughly after handling.

Hazards not otherwise classified : Causes digestive tract burns.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number : Not applicable.

Ingredient name	%	CAS number
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	25 - 50	55818-57-0
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	10 - 25	15625-89-5
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	5 - 10	4986-89-4
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)]] ester	5 - 10	42978-66-5
Titanium dioxide	5 - 10	13463-67-7
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	5 - 10	3524-68-3
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	5 - 10	13048-33-4
Multifunctional Acrylate	1 - 5	-
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	1 - 5	7473-98-5
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	1 - 5	71868-10-5
Copper Compound	1 - 5	-
carbon black, respirable powder	1 - 5	1333-86-4
Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)-	1 - 5	162881-26-7
Phenol, 4-methoxy-	0.1-1	150-76-5

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : 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. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

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

Ingestion : Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

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

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

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

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

Notes to physician : 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 an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
metal oxide/oxides
silicium oxides
(dense) black smoke
aldehydes
organic acids
halogenated compounds

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remarks : Extinguishing media : Use dry chemical or CO_2.

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. 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. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store between the following temperatures: 15 to 30°C (59 to 86°F). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store in original container, protected from direct sunlight. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Keep away from heat and direct sunlight. Inhibitor only effective in the presence of oxygen.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	None.
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	**AIHA WEEL (United States, 7/2018). Absorbed through skin.** TWA: 1 mg/m³ 8 hours.
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	None.
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)]] ester	None.
Titanium dioxide	**ACGIH TLV (United States, 3/2020).** TWA: 10 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 5/2018).** TWA: 15 mg/m³ 8 hours. Form: Total dust
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	**AIHA WEEL (United States, 7/2018). Skin sensitizer.** TWA: 1 mg/m³ 8 hours.
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	**AIHA WEEL (United States, 7/2018). Skin sensitizer.**

	TWA: 1 mg/m³ 8 hours.
Multifunctional Acrylate	None.
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	None.
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	None.
Copper Compound	**ACGIH TLV (United States).** TWA: 0.2 mg/m³, (Copper - Fume (as Cu)) **OSHA PEL (United States).** TWA: 0.1 mg/m³, (Copper - Fume (as Cu))
carbon black, respirable powder	**ACGIH TLV (United States, 3/2020).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL 1989 (United States, 3/1989).** TWA: 3.5 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 3.5 mg/m³ 8 hours.
Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)-	None.
Phenol, 4-methoxy-	**ACGIH TLV (United States, 3/2020).** TWA: 5 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 5 mg/m³ 10 hours.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure 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.

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. < 1 hour (breakthrough time): (0.12 mm) Nitrile gloves.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Remarks	:	Do not use PVC gloves. PVC absorbs acrylics. Do not use natural rubber gloves. Replace damaged gloves.

Section 9. Physical and chemical properties

Appearance

Physical state	:	Liquid. [Viscous liquid.]
Color	:	Various
Odor	:	Characteristic.
Odor threshold	:	Not available.
pH	:	Not available.
Melting point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Closed cup: >212°F (>100°C) [(estimate)]
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	1.12 (Water = 1)
Density (g/cm³)	:	1.12 g/cm³ (23°C)
Bulk density	:	Not available.
Solubility	:	Insoluble in the following materials: cold water and hot water.
Solubility in water	:	Not available.
Solubility at room temperature	:	Not available.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Dynamic (room temperature): 4100 to 4400 mPa·s (4100 to 4400 cP) Kinematic (room temperature): >36.6 cm^2/s (>3660 cSt) Kinematic (40°C (104°F)): >0.205 cm^2/s (>20.5 cSt)
Remarks	:	Soluble in the following materials: organic solvents

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. Stable under recommended storage and handling conditions (see Section 7).
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Keep away from heat and direct sunlight. Keep away from flames or sparks. May polymerize on exposure to light. During heating, spontaneous polymerisation can occur.

Incompatible materials : Free radical initiators, peroxides, strongly alkaline and strongly acidic materials or reactive metals. Contact with these could result in uncontrolled exothermic polymerization.

Hazardous decomposition products : No specific data.

Remarks : Keep away from heat and direct sunlight. Keep away from flames or sparks. Keep away from: Free radical initiators, peroxides, strongly alkaline and strongly acidic materials or reactive metals. Contact with these could result in uncontrolled exothermic polymerization.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	LC50 Inhalation Dusts and mists	Rat	>0.55 mg/l	6 hours
	LD50 Dermal	Rabbit	5170 mg/kg	-
	LD50 Oral	Rat	3680 mg/kg	-
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg (LD0 = 2000 mg/ kg. Single dose.)	-
	LD50 Oral	Rat - Male, Female	540 mg/kg	-
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]] ester	LC0 Inhalation Vapor	Rat - Male, Female	0.000545 mg/l	7 hours
	LD50 Dermal	Rat - Female	>2000 mg/kg (LD0 = 2000 mg/ kg. Mortality : Not applicable)	-
	LD50 Oral	Rat - Female	>2000 mg/kg (LD0 = 2000 mg/ kg. Mortality : Not applicable)	-
Titanium dioxide	LD50 Oral	Rat - Female	>5000 mg/kg	-
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg (LD0 = 2000 mg/ kg. Single dose.)	-
	LD50 Oral	Rat - Male, Female	540 mg/kg	-
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	LC0 Inhalation Vapor	Rat - Male, Female	0.41 mg/l Air	7 hours
	LD50 Dermal	Rabbit	3650 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	LD50 Dermal	Rat	6929 mg/kg	-
	LD50 Oral	Rat	1694 mg/kg	-

1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	LD50 Dermal	Rat - Male, Female	>2000 mg/kg (LD0 = 2000 mg/kg)	-
Copper Compound	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
carbon black, respirable powder	LD50 Oral	Rat	>8000 mg/kg	-
Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)-	LD50 Dermal	Rat - Male, Female	>2000 mg/kg (LD0 = 2000 mg/kg)	-
	LD50 Oral	Rat - Male, Female	>2000 mg/kg (LD0 = 2000 mg/kg)	-
Phenol, 4-methoxy-	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	1600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	Skin - Erythema/Eschar	Rabbit	0	-	-
	Eyes - Cornea opacity	Rabbit	0	-	-
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	Skin - Erythema/Eschar	Rabbit	>2	-	-
	Eyes - Cornea opacity	Rabbit	>1	-	-
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	Eyes - Cornea opacity	Rabbit	2.56	0.1 ml	24 to 72 hours
	Eyes - Iris lesion	Rabbit	1	0.1 ml	24 to 72 hours
	Eyes - Redness of the conjunctivae	Rabbit	3	0.1 ml	24 to 72 hours
	Eyes - Edema of the conjunctivae	Rabbit	4	0.1 ml	24 to 72 hours
	Skin - Edema	Rabbit	2	0.5 ml	24 to 72 hours
	Skin - Erythema/Eschar	Rabbit	2.3	0.5 ml	24 to 72 hours
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]] ester	Skin - Erythema/Eschar	Rabbit	0.22	4 hours 0.5 ml	24 to 72 hours
	Skin - Edema	Rabbit	0	4 hours 0.5 ml	24 to 72 hours
	Eyes - Cornea opacity	Rabbit	1	24 hours 0.1 ml	24 to 72 hours
	Eyes - Iris lesion	Rabbit	0.44	24 hours 0.1 ml	24 to 72 hours
	Eyes - Redness of the conjunctivae	Rabbit	2.33	24 hours 0.1 ml	24 to 72 hours
	Eyes - Edema of the conjunctivae	Rabbit	1.67	24 hours 0.1 ml	24 to 72 hours
	Eyes - Severe irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Titanium dioxide	Eyes - Redness of the conjunctivae	Rabbit	1.3	72 hours 57 mg	72 hours
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	Eyes - Cornea opacity	Rabbit	2.56	0.1 ml	24 to 72 hours
	Eyes - Iris lesion	Rabbit	1	0.1 ml	24 to 72 hours
	Eyes - Redness of the conjunctivae	Rabbit	3	0.1 ml	24 to 72 hours

	Eyes - Edema of the conjunctivae	Rabbit	4	0.1 ml	24 to 72 hours
	Skin - Edema	Rabbit	2	4 hours 0.5 ml	24 to 72 hours
	Skin - Erythema/Eschar	Rabbit	2.3	4 hours 0.5 ml	24 to 72 hours
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	Skin - Irritant	Rabbit	-	4 hours 0.5 ml	24 to 72 hours
	Eyes - Mild irritant	Rabbit	-	-	-
	Respiratory - Irritant	Mammal - species unspecified	-	-	-
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	Skin - Non-irritating	Rabbit	0	-	-
	Eyes - Cornea opacity	Rabbit	0	-	72 hours
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	Skin - Erythema/Eschar	Rabbit	<0.1	4 hours 500 mg	72 hours
	Skin - Edema	Rabbit	<0.1	4 hours 500 mg	72 hours
	Eyes - Cornea opacity	Rabbit	<0.1	100 mg	72 hours
	Eyes - Iris lesion	Rabbit	<0.1	100 mg	72 hours
	Eyes - Redness of the conjunctivae	Rabbit	0.89	100 mg	72 hours
	Eyes - Edema of the conjunctivae	Rabbit	0.22	100 mg	72 hours
carbon black, respirable powder	Skin - Primary dermal irritation index (PDII)	Rabbit	0	-	-
	Skin - Erythema/Eschar	Rabbit	0	-	-
	Skin - Edema	Rabbit	0	-	-
	Eyes - Cornea opacity	Rabbit	0	-	-
	Eyes - Iris lesion	Rabbit	0	-	-
	Eyes - Redness of the conjunctivae	Rabbit	0	-	-
	Eyes - Edema of the conjunctivae	Rabbit	0	-	-
Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)-	Skin - Erythema/Eschar	Rabbit	0	4 hours 0.5 g	24 to 72 hours
	Skin - Edema	Rabbit	0	4 hours 0.5 g	24 to 72 hours
	Respiratory - Non-irritating	Rabbit	1.67	24 to 72 hours	-
Phenol, 4-methoxy-	Skin - Mild irritant	Rabbit	-	288 hours 6 Grams Intermittent	-
	Skin - Erythema/Eschar	Rabbit	1.78	-	-
	Skin - Edema	Rabbit	1.44	-	-

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	skin	Mouse	Sensitizing
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	skin	Guinea pig	Sensitizing
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	skin	Human	Sensitizing
	skin	Guinea pig	Not sensitizing
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]]	skin	Mouse	Sensitizing

ester			
Titanium dioxide	skin	Mouse	Not sensitizing
	skin	Guinea pig	Not sensitizing
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	skin	Guinea pig	Not sensitizing
	skin	Human	Sensitizing
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	skin	Guinea pig	Sensitizing
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	skin	Guinea pig	Not sensitizing
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	skin	Guinea pig	Not sensitizing
Copper Compound	skin	Guinea pig	Not sensitizing
	skin	Mouse	Not sensitizing
carbon black, respirable powder	skin	Human	Not sensitizing
	Respiratory	Mouse	Not sensitizing
Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)-	skin	Guinea pig	Sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	OECD 473 *In vitro* Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Human	Positive
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: Without and with metabolic activation	Negative
	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: Without and with metabolic activation	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]] ester	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Positive
	Mouse Lymphoma Forward Mutation Assay	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: Without & with metabolic activation	Positive
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
	Chromosome aberration and DNA damage and/or repair	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
Titanium dioxide	-	Experiment: In vitro Subject: Mammalian-Animal	Positive

	-	Experiment: In vitro Subject: Mammalian-Human	Positive
	-	Experiment: In vitro Subject: Bacteria	Negative
	-	Experiment: In vivo Subject: Mammalian-Animal	Negative
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: Without and with metabolic activation	Negative
	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: Without and with metabolic activation	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: Without & With	Negative
	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: Without & with	Negative
	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
	chromosome aberration and DNA damage and/or repair	Experiment: In vivo Subject: Mammalian-Animal	Negative
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: With and without metabolic activation	Negative
	OECD 473 *In vitro* Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: With and without metabolic activation	Negative
	-	Experiment: In vivo Subject: Mammalian-Animal	Negative
Copper Compound	-	Experiment: In vitro Subject: Bacteria	Positive
	-	Experiment: In vitro Subject: Mammalian-Animal	Negative
carbon black, respirable powder	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with and without	Negative
	-	Experiment: In vitro Subject: Mammalian-Animal	Negative
	-	Experiment: In vivo Subject: Insect	Negative

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Titanium dioxide	Negative - Inhalation - NOAEC	Rat	-	-
	Negative - Oral - NOEL	Rat	-	-
	Negative - Oral - NOEL	Mouse	-	-
carbon black, respirable powder	Negative - Oral - NOEL	Mouse	10000 mg/kg	-
	Negative - Oral - NOEL	Rat	52 mg/kg per day	-
	Negative - Inhalation - NOAEC	Mouse	7.5 mg/m³	4 months

Classification

Product/ingredient name	OSHA	IARC	NTP
Titanium dioxide	-	2B	-
carbon black, respirable powder	-	2B	-

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester	-	Negative	Negative	Rat - Male, Female	Oral: 200 mg/kg / day (NOAEL. Highest tested dose.)	-
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)]] ester	-	Negative	-	Rat - Male, Female	Oral: 250 mg/kg / day (NOAEL)	-
	-	-	Negative	Rat	Oral: 250 mg/kg / day (NOAEL - Embryotoxicity)	-
	-	-	Negative	Rat	Oral: 250 mg/kg / day (NOAEL - Teratogenicity)	-
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester	-	Negative	Negative	Rat - Male, Female	Oral: 200 mg/kg / day. (NOAEL. Highest tested dose.)	-
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	-	-	Negative	Rat	Oral	-
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	-	Negative	-	Rat - Male, Female	Oral: 40 mg/kg / day (P0 NOAEL)	-
	-	Negative	-	Rat - Male, Female	Oral: 80 mg/kg / day (P0 LOAEL)	-
	-	Negative	-	Rat - Male, Female	Oral: 40 mg/kg / day (F1 NOAEL)	-
	-	Negative	-	Rat - Male, Female	Oral: 80	-

Copper Compound	-	-	-	Rat	mg/kg / day (F1 LOAEL) Oral: 1000 mg/kg F1	-

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester	Negative - Oral	Rat - Male, Female	200 mg/kg /day (NOAEL. Highest tested dose.)	-
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)]] ester	Negative - Oral	Rat	250 mg/kg	-
Titanium dioxide	Negative - Oral	Rat	1000 mg/kg NOAEL	20 days; 7 days per week
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester	Negative - Oral	Rat - Male, Female	200 mg/kg /day (NOAEL. Highest tested dose.)	-
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	Negative - Oral	Rat	750 mg/kg / day (NOAEL - Single dose Test)	-
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	Negative - Oral	Rat	40 mg/kg /day (LOAEL)	-
Copper Compound	Negative - Oral	Rat	-	-

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)]] ester	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

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

Ingestion : Corrosive to the digestive tract. Causes burns.

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:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

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

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	Sub-chronic NOAEL Oral	Rat - Male, Female	<100 mg/kg day	-
	Sub-chronic LOAEL Oral	Rat - Male	≤100 mg/kg day	-
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	Sub-acute NOAEL Dermal	Rat	300 mg/kg	28 days
	Chronic NOAEL Dermal	Rat	12 mg/kg	-
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	Sub-chronic NOAEL Oral	Rat - Male, Female	75 mg/kg /day	-
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]] ester	Sub-acute NOAEL Oral	Rat - Male, Female	250 mg/kg /day	-
	Sub-acute LOAEL Dermal	Rabbit - Male, Female	250 mg/kg /day	-
Titanium dioxide	Sub-chronic NOEL Oral	Rat	24000 mg/kg	-
	Chronic NOAEC Inhalation Dusts and mists	Rat	5 mg/m³	24 months; 6 hours per day 5 days per week
	Sub-chronic NOAEC Inhalation Dusts and mists	Rat	0.52 mg/m³	13 weeks; 6 hours per day 5 days per week
	Sub-acute NOAEC Inhalation Dusts and mists	Rat	5 mg/m³	4 weeks; 6 hours per day 5 days per week
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	Sub-chronic NOAEL Oral	Rat - Male, Female	75 mg/kg /day	-
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	Sub-acute NOAEL Oral	Rat - Male, Female	250 mg/kg /day	-
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	Sub-chronic NOAEL Oral	Rat - Male, Female	50 mg/kg	-
Copper Compound	Sub-chronic NOAEL Oral	Rat	4500 mg/kg	-

	Sub-acute NOEL Oral	Rat	40 mg/kg	-
	Sub-acute NOAEL Oral	Rat	1000 mg/kg	-
	Sub-acute LOAEL Oral	Rat	1000 mg/kg	-
carbon black, respirable powder	Chronic NOEL Oral	Rat - Female	52 mg/kg per day	-
	Chronic LOAEC Inhalation Vapor	Rat	2.5 mg/m³	24 months; 16 hours per day 5 days per week
	Sub-chronic NOAEC Inhalation Vapor	Rat	1.1 mg/m³	13 weeks; 6 hours per day 5 days per week
	Sub-chronic LOAEC Inhalation Vapor	Rat	7.1 mg/m³	13 weeks; 6 hours per day 5 days per week
Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)-	Sub-acute NOAEL Oral	Rat - Male, Female	>1000 mg/kg /day (Highest tested dose)	-
	Sub-chronic NOAEL Oral	Rat - Male, Female	300 mg/kg /day	-
	Sub-acute NOEL Oral	Rat - Male, Female	15 mg/kg	-

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : May damage fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Cablelite® 751-009 Yellow	2464.9	8525.4	N/A	N/A	N/A
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	2500	2500	N/A	N/A	N/A
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester	3680	5170	N/A	N/A	N/A
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester	540	N/A	N/A	N/A	N/A
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester	540	N/A	N/A	N/A	N/A
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	N/A	3650	N/A	N/A	N/A
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	1694	6929	N/A	N/A	N/A
Copper Compound	2500	N/A	N/A	N/A	N/A
Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)-	2500	2500	N/A	N/A	N/A
Phenol, 4-methoxy-	1600	2500	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	Chronic NOEC ≥0.51 mg/l Fresh water	Daphnia	21 days
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	Acute EC50 18.8 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute LC50 19.9 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 0.87 mg/l Fresh water	Fish	96 hours
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	Acute EC50 12 mg/l Fresh water	Algae	96 hours
	Acute EC50 13 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 3.2 mg/l Fresh water	Fish	96 hours
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]] ester	Acute EC50 65.9 mg/l Fresh water	Algae	96 hours
	Acute EC50 69 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 4.6 to 10 mg/l Fresh water	Fish	96 hours
	Acute NOEC 2.15 mg/l Fresh water	Fish - Leuciscus idus	96 hours
Titanium dioxide	Acute EC50 >1000 mg/l	Daphnia	48 hours
	Acute LC50 >10000 mg/l	Crustaceans	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours
	Acute NOEC ≥100 mg/l	Fish	96 hours
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	Acute EC50 12 mg/l Fresh water	Algae	96 hours
	Acute EC50 13 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 3.2 mg/l Fresh water	Fish	96 hours
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	Acute EC50 2.7 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 2.33 mg/l Fresh water	Algae	72 hours
	Acute LC50 0.38 mg/l Fresh water	Fish	96 hours
	Chronic NOEC 0.14 mg/l Fresh water	Daphnia	21 days
	Chronic NOEC 0.072 mg/l Fresh water	Fish	39 days
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	Acute EC50 1.95 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 >119 mg/l Fresh water	Daphnia	48 hours
	Acute EC50 >1000 mg/l Fresh water	Micro-organism	180 minutes
	Acute LC50 160 mg/l Fresh water	Fish - Leuciscus idus	48 hours
	Acute NOEC 0.194 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	Acute EC50 1.6 mg/l Fresh water	Algae	72 hours
	Acute EC50 15.3 mg/l Fresh water	Daphnia	24 hours
	Acute LC50 9 mg/l Fresh water	Fish	96 hours
	Chronic NOEC 1 mg/l Fresh water	Daphnia	21 days
Copper Compound	EC50 >100 mg/l	Algae	72 hours
	EC50 153.6 mg/l	Daphnia	48 hours
	LC50 46 mg/l	Fish	96 hours
	NOEC ≥1 mg/l	Daphnia	21 days
	NOEC 22 mg/l	Fish	96 hours
carbon black, respirable powder	NOEC >10000 mg/l	Algae	72 hours
	Acute EC50 >10000 mg/l	Algae	72 hours

	Acute EC50 37.563 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 >1000 mg/l	Fish	96 hours
	Acute NOEC 3200 mg/l	Daphnia	24 hours
	Acute NOEC 8000 mg/l	Fish	48 hours
Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)-	Acute EC_0 0.003 mg/l Fresh water	Daphnia	48 hours
	Chronic EC50 ≥0.0081 mg/l Fresh water	Daphnia	21 days
Phenol, 4-methoxy-	Acute EC50 54.7 mg/l Fresh water	Algae	72 hours
	Acute EC50 3 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 28.5 mg/l Fresh water	Fish	96 hours
	Chronic NOEC 2.96 mg/l Fresh water	Algae	72 hours
	Chronic NOEC 0.68 mg/l	Daphnia	21 days

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	-	42 % - Inherent - 28 days	-	-
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	OECD 301B Ready Biodegradability - CO_2 Evolution Test	82 to 90 % - Readily - 28 days	-	-
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	OECD 301B Ready Biodegradability - CO_2 Evolution Test	6 to 14 % - Not readily - 28 days	-	-
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]] ester	OECD 301B Ready Biodegradability - CO_2 Evolution Test	48 % - 28 days	-	-
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	OECD 301B Ready Biodegradability - CO_2 Evolution Test	6 to 14 % - 28 days	-	-
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	OECD 310 Ready Biodegradability - CO_2 in Sealed Vessels (Headspace Test)	60 to 70 % - 28 days	-	-
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	OECD 301B Ready Biodegradability - CO_2 Evolution Test	90 to 100 % - Readily - 28 days	-	-
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	OECD 301B Ready Biodegradability - CO_2 Evolution Test	≤1 % - 28 days	-	-
Copper Compound	-	0 % - 14 days	-	-
	-	0 % - 28 days	-	-
carbon black, respirable powder	-	0 % - Not readily - 5 days	-	-

Phenol, 4-methoxy-	OECD 311 OECD 301 C	>90 % - 56 days 86 % - Readily - 28 days	- -	- -

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	-	-	Inherent
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	-	-	Readily
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	-	-	Not readily
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]] ester	-	-	Inherent
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	-	-	Not readily
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	-	-	Readily
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	-	-	Readily
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	-	-	Not readily
Copper Compound	-	-	Not readily
carbon black, respirable powder	-	-	Not readily
Phenol, 4-methoxy-	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Phenol, 4,4′-(1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate	1.6 to 3.8	-	low
2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	4.35	-	high
2-Propenoic acid, 1,1′-[2,2-bis[[(1-oxo-2-propen-1-yl)oxy] methyl]-1,3-propanediyl] ester	1.45 to 2.71	14.6	low
2-propenoic acid, 1,1'-[(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)]] ester	2	-	low
Titanium dioxide	-	352	low
2-Propenoic acid, 1,1′-[2-(hydroxymethyl)-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester	1.45 to 2.71	-	low
2-Propenoic acid, 1,1′-(1,6-hexanediyl) ester	2.81	29.09	low
1-Propanone, 2-hydroxy-2-methyl-1-phenyl-	1.62	-	low
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-	3.09	13	low

(4-morpholinyl)- Copper Compound Methanone, 1,1′-(phenylphosphinylidene)bis[1-(2,4,6-trimethylphenyl)- Phenol, 4-methoxy-	 6.6 5.8 1.58	 - <5 -	 high low low

Mobility in soil

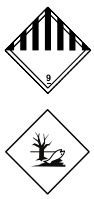
Soil/water partition coefficient (K_{OC}) : Not available.

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. 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	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	UN3082	UN3082
UN proper shipping name	-	-	-	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, 4,4′-(1-methylethylidene) bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate, 2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester)	Environmentally hazardous substance, liquid, n. o.s. (Phenol, 4,4′-(1-methylethylidene) bis-, polymer with 2-(chloromethyl) oxirane, 2-propenoate, 2-Propenoic acid, 1,1′-[2-ethyl-2-[[(1-oxo-2-propen-1-yl)oxy]methyl] -1,3-propanediyl] ester)
Transport hazard class(es)	-	-	-	9 	9 

Packing group	-	-	-	III	III
Environmental hazards	No.	No.	No.	Yes.	Yes.

Additional information

IMDG :

IATA :

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: See remarks

United States inventory (TSCA 8b): See remarks

Clean Water Act (CWA) 307: toluene; Copper Compound

Clean Water Act (CWA) 311: toluene

	Product/ingredient name	CAS #	%
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	acrylic acid toluene	79-10-7 108-88-3	0.064851 0 - 0.0040005

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements			
Supplier notification			

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: CARBON BLACK; TITANIUM DIOXIDE; TIN DIOXIDE DUST

New York : None of the components are listed.

New Jersey : The following components are listed: CARBON BLACK; TITANIUM DIOXIDE; TITANIUM OXIDE (TiO2); Copper Compound

Pennsylvania : The following components are listed: 2-PROPENOIC ACID; CARBON BLACK; TITANIUM OXIDE; Copper Compound

California Prop. 65

⚠ **WARNING**: This product can expose you to chemicals including Titanium dioxide and Carbon black, which are known to the State of California to cause cancer, and Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Titanium dioxide	-	-
Carbon black	-	-
Toluene	-	Yes.
Toluene	-	Yes.
Bisphenol A	-	Yes.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Ingredient name	List name	Status
Not listed.		

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Ingredient name	List name	Status
Not listed.		

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Ingredient name	List name	Status
Not listed.		

Remarks : Relevant declarations related to this product are available on request.

Section 16. Other information

History

Code : 015071WW25559

Date of printing : 4/21/2022

Date of issue/Date of revision : 4/21/2022

Date of previous issue : 9/15/2021

Version : 13

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

Procedure used to derive the classification

Classification	Justification
SKIN IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION - Category 1B	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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