

SAFETY DATA SHEET



DeSolite® DF-0009

Section 1. Identification

GHS product identifier : DeSolite® DF-0009
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 : ACUTE TOXICITY (oral) - Category 4
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H360 - May damage fertility or the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure.

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.
P260 - Do not breathe vapor.
P270 - Do not eat, drink or smoke when using this product.
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.
 P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
 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.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.
- CAS number** : Not applicable.

Ingredient name	%	CAS number
Acrylated resin	25 - 50	-
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, dodecanoate 2-propenoate	25 - 50	68071-07-8
2-propenoic acid, tridecyl ester	5 - 10	3076-04-8
2-Propenamide, N,N-dimethyl-	5 - 10	2680-03-7
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	1 - 5	55818-57-0
2-Propenoic acid, dodecyl ester	1 - 5	2156-97-0
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	1 - 5	71868-10-5
Ethanone, 2,2-dimethoxy-1,2-diphenyl-	1 - 5	24650-42-8
2-Propenoic acid, 2-hydroxyethyl ester	0.1-1	818-61-1

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health 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** : Harmful if swallowed.

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
(dense) black smoke
aldehydes
organic acids
halogenated compounds
nitrogen oxides (NO, NO₂ etc.)
ammonia (NH₃)
amines

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

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. 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
Acrylated resin	None.
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, dodecanoate 2-propenoate	None.
2-propenoic acid, tridecyl ester	None.
2-Propenamide, N,N-dimethyl-	None.
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	None.
2-Propenoic acid, dodecyl ester	None.
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	None.
Ethanone, 2,2-dimethoxy-1,2-diphenyl-	None.
2-Propenoic acid, 2-hydroxyethyl ester	None.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : 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.
Color	: Colorless to light yellow.
Odor	: typical
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/cm ³ (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): 5700 to 7700 mPa·s (5700 to 7700 cP)
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, dodecanoate 2-propenoate	LC50 Inhalation Dusts and mists	Rat	>4.9 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
2-Propenamides, N,N-dimethyl-	LD50 Oral	Rat - Female	>2000 mg/kg	-
	LD50 Dermal	Rabbit	541 to 910 mg/kg	-
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	LD50 Oral	Rat - Male, Female	215 to 464 mg/kg	-
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
2-Propenoic acid, dodecyl ester	LD50 Oral	Rat - Male, Female	>2000 mg/kg	-
	LD50 Dermal	Rat - Male, Female	>5000 mg/kg	-
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-	LD50 Oral	Rat - Male, Female	>5570 mg/kg	-
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg (LDO = 2000 mg/	-



(4-morpholinyl)- Ethanone, 2,2-dimethoxy- 1,2-diphenyl-	LD50 Dermal	Rat - Male, Female	kg) >5000 mg/kg	-
	LD50 Oral	Rat - Male, Female	1470 mg/kg	-
2-Propenoic acid, 2-hydroxyethyl ester	LD50 Dermal	Rat - Male, Female	>1000 mg/kg	-
	LD50 Oral	Rat - Male	540 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Phenol, 4,4'- (1-methylethylidene)bis-, polymer with 2-(chloromethyl) oxirane, dodecanoate 2-propenoate 2-propenoic acid, tridecyl ester	Eyes - Redness of the conjunctivae	Rabbit	1	0.1 ml	7 days
	Skin - Irritant	Rabbit	-	-	-
	Eyes - Irritant Respiratory - Irritant	Rabbit Mammal - species unspecified	- - -	- - -	- - -
2-Propenamide, N,N-dimethyl-	Skin - Erythema/Eschar	Rabbit	0	24 hours 0.5 ml	72 hours
	Skin - Edema	Rabbit	0	24 hours 0.5 ml	72 hours
2-Propenoic acid, dodecyl ester	Eyes - Cornea opacity	Rabbit	1	0.1 ml	24 to 72 hours
	Skin - Primary dermal irritation index (PDII)	Rabbit	2.4	-	-
	Skin - Erythema/Eschar	Rabbit	1.59	-	-
	Skin - Edema	Rabbit	1.07	-	-
	Eyes - Cornea opacity	Rabbit	0	-	-
	Eyes - Iris lesion	Rabbit	0	-	-
	Eyes - Edema of the conjunctivae	Rabbit	0	-	-
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
	Skin - Primary dermal irritation index (PDII)	Rabbit	1.2	-	-
Ethanone, 2,2-dimethoxy- 1,2-diphenyl- 2-Propenoic acid, 2-hydroxyethyl ester	Eyes - Non-irritating	Rabbit	0	-	-
	Skin - Visible necrosis	Rabbit	-	≤1 hours	14 days
	Eyes - Irritant	Rabbit	-	-	-

Sensitization



Product/ingredient name	Route of exposure	Species	Result
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, dodecanoate 2-propenoate 2-Propenamide, N,N-dimethyl- Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate 1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)- Ethanone, 2,2-dimethoxy-1,2-diphenyl- 2-Propenoic acid, 2-hydroxyethyl ester	skin	Mouse	Sensitizing
	skin	Guinea pig	Not sensitizing
	skin	Mouse	Sensitizing
	skin	Guinea pig	Not sensitizing
	skin	Human	Not sensitizing
	skin	Mouse	Sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, dodecanoate 2-propenoate	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with and without	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate 2-Propenoic acid, dodecyl ester	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
	-	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: with and without	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 <i>In vitro</i> 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

Carcinogenicity

Not available.

Reproductive toxicity



Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, dodecanoate	-	-	-	Rat	Oral: >900 mg/kg	5 weeks
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	-	Negative	Negative	Rat - Male, Female	Oral: >900 mg/kg NOAEL Parental, F1	-
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 mg/kg / day (F1 LOAEL)	-

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	Negative - Oral	Rat - Female	-	-
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	Negative - Oral	Rat	40 mg/kg /day (LOAEL)	-

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
2-propenoic acid, tridecyl ester	Category 3	-	Respiratory tract irritation
2-Propenoic acid, dodecyl ester	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Phenanthrene, 2,2-dimethoxy-1,2-diphenyl-	Category 2	-	-

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	: Harmful if swallowed.

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, dodecanoate 2-propenoate 2-Propenamide, N,N-dimethyl-	Chronic NOEL Oral	Rat	>900 mg/kg	5 weeks
	Sub-acute NOAEL Oral	Rat - Male, Female	5 mg/kg /day	-
	Sub-chronic NOAEL Dermal	Rat - Male, Female	10 mg/kg /day	13 weeks; 6 hours per day /7 days per week
	Sub-chronic LOAEL Dermal	Rat - Male, Female	75 mg/kg /day	13 weeks; 6 hours per day /7 days per week
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate Ethanone, 2,2-dimethoxy-1,2-diphenyl- 2-Propenoic acid, 2-hydroxyethyl ester	Sub-chronic NOAEL Oral	Rat - Male, Female	<100 mg/kg	90 days
	Sub-chronic NOEL Oral	Rat - Male, Female	42.8 mg/kg	45 days
	Sub-chronic NOAEL Oral	Rat - Male, Female	196 to 305 mg/kg / day	100 days



	Chronic NOAEC Inhalation Vapor	Rat - Male, Female	0.0024 mg/l	18 months; 6 hours per day 5 days per week
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- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- 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)
DeSolite® DF-0009	1306.1	2766	N/A	N/A	N/A
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, dodecanoate 2-propenoate	2500	2500	N/A	N/A	N/A
2-propenoic acid, tridecyl ester	10000	10000	N/A	10000	N/A
2-Propenamide, N,N-dimethyl-	100	300	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
Ethanone, 2,2-dimethoxy-1,2-diphenyl-	1470	N/A	N/A	N/A	N/A
2-Propenoic acid, 2-hydroxyethyl ester	540	1100	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-Propenamide, N,N-dimethyl-	Acute EC50 >400 mg/l Fresh water	Algae	96 hours
	Acute EC50 >120 mg/l Fresh water	Daphnia	48 hours
	Acute EC ₀ ≥120 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 >120 mg/l Fresh water	Fish	96 hours
	Acute EC50 17 mg/l Fresh water	Algae	72 hours
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	Acute EC50 >16 mg/l Fresh water	Daphnia	48 hours
	Chronic NOEC ≥0.51 mg/l Fresh water	Daphnia	21 days
	Acute EC50 51.6 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
2-Propenoic acid, dodecyl ester	Acute LC50 >4.34 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 1.6 mg/l Fresh water	Algae	72 hours
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	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
	Acute EC50 19.666 mg/l Fresh water	Algae	96 hours
Ethanone, 2,2-dimethoxy-1,2-diphenyl-	Acute LC50 18.387 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 29.67 mg/l	Fish	96 hours
	Acute EC50 6 mg/l Fresh water	Algae	72 hours
2-Propenoic acid, 2-hydroxyethyl ester	Acute EC50 5.2 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 6.5 mg/l Fresh water	Fish	96 hours
	Chronic NOEC 0.48 mg/l Fresh water	Daphnia	21 days



Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2-Propenamide, N,N-dimethyl-	OECD 301C Ready Biodegradability - Modified MITI Test (I)	0 % - 28 days	-	-
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	≤1 % - 28 days	-	-
2-Propenoic acid, 2-hydroxyethyl ester	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	80 % - Readily - 28 days	20 mg/l	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-Propenamide, N,N-dimethyl-Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	-	-	Not readily Inherent
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	-	-	Not readily
Ethanone, 2,2-dimethoxy-1,2-diphenyl-	-	-	Inherent
2-Propenoic acid, 2-hydroxyethyl ester	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Acrylated resin	0.38	-	low
2-Propenamide, N,N-dimethyl-Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane, 2-propenoate	-0.3 1.6 to 3	-	low low
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	3.09	13	low
Ethanone, 2,2-dimethoxy-1,2-diphenyl-	3.42	10.63	low
2-Propenoic acid, 2-hydroxyethyl ester	-0.17	-	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.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

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

	Product/ingredient name	CAS #	%
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	acrylic acid methanol	79-10-7 67-56-1	0.15096 0.009

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 : None of the components are listed.
 New York : None of the components are listed.
 New Jersey : None of the components are listed.
 Pennsylvania : The following components are listed: 2-PROPENOIC ACID

California Prop. 65

⚠ WARNING: This product can expose you to Methanol, 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
Methanol	-	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 : 015832WW38430
 Date of printing : 8/27/2021
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Version : 10

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
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
TOXIC TO REPRODUCTION - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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