

SAFETY DATA SHEET



1. Identification

Covestro LLC
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Pittsburgh, PA 15205
USA

TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300
INTERNATIONAL: (703) 527-3887

NON-TRANSPORTATION

Emergency Phone: Call Chemtrec
Information Phone: (844) 646-0545

Product Name: DeSolite 3471-3-14
Material Number: 50025036
Chemical Family: UV-Curable Mixture
Use: Raw material for coatings, inks, adhesives, sealants, or elastomers in industrial applications
Restrictions on use: Do-It-Yourself Applications

2. Hazards Identification

GHS Classification

Skin irritation: Category 2
Eye irritation: Category 2A
Skin sensitisation: Category 1
Carcinogenicity: Category 2
Reproductive toxicity (Oral): Category 1B

GHS Label Elements

Hazard pictograms:



Signal word: Danger

Hazard statements: Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Suspected of causing cancer.
May damage fertility or the unborn child if swallowed.

Precautionary statements: **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

Material Name: DeSolite 3471-3-14

Material Number: 50025036

Avoid breathing dust, mist, gas, vapors or spray.
Wash skin and face thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear permeation resistant protective gloves and clothing. Wear eye and face protection.

Response:

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

Storage:

Store locked up.

Disposal:

Dispose of contents and container in accordance with existing federal, state, and local environmental control laws.

3. Composition/Information on Ingredients

Hazardous Components

<u>Concentration</u>	<u>Components</u>	<u>CAS-No.</u>
7 - 13%	1,1,1-trimethylol propane triacrylate	15625-89-5
1 - 5%	Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	75980-60-8
0.1 - 1%	Oligomer	CAS# is a trade secret
0.1 - 1%	2-Hydroxyethyl Acrylate	818-61-1

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

4. First Aid Measures

Most Important Symptom(s)/Effect(s)

Acute: May cause allergic skin reaction with symptoms of reddening, itching, swelling, and rash., Causes skin irritation with symptoms of reddening, itching, and swelling., Causes serious eye irritation with symptoms of reddening, tearing, swelling, and burning.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact

In case of skin contact, wash affected areas with soap and water. Wash off immediately with plenty of water for at least 15 minutes. Immediately remove contaminated clothing and shoes. Call a physician if irritation develops or persists. Wash clothing and shoes before reuse.

Inhalation

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial

respiration. Get medical attention.

Ingestion

If ingested, do not induce vomiting unless directed to do so by medical personnel. Call a physician immediately.

5. Firefighting Measures

Suitable Extinguishing Media: All extinguishing media are suitable.

Unsuitable Extinguishing Media No Data Available

Fire Fighting Procedure

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

Hazardous Decomposition Products

By Fire and Thermal Decomposition: Carbon dioxide (CO₂), carbon monoxide (CO), dense black smoke., Acrylate monomers, Aldehydes, Organic acids

Unusual Fire/Explosion Hazards

Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

6. Accidental Release Measures

Spill and Leak Procedures

Cleanup personnel must use appropriate personal protective equipment. Dike or dam spilled material and control further spillage, if possible. Prevent from entering open drains and waterways. Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal.

7. Handling and Storage

Handling/Storage Precautions

Avoid breathing dust, vapor, or mist. Avoid contact with skin or clothing. Avoid contact with eyes. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed when not in use.

Storage Temperature

Minimum: 15 °C (59 °F)

Maximum: 30 °C (86 °F)

Storage Conditions

Inhibitor only effective in the presence of oxygen. Exposure to light may cause product polymerization. Extreme heat will result in product polymerization. Protect against heat and direct sunlight.

Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Substances to Avoid

Exothermic reaction with:, Free radical initiators, Peroxides, strong alkalis, Strong acids, Reactive metals

8. Exposure Controls/Personal Protection

The recommendations in this section should not be a substitute for a personal protective equipment (PPE) assessment performed by the employer as required by 29 CFR 1910 Subpart I.

Exposure Limits

Country specific exposure limits have not been established or are not applicable

Any component which is listed in section 3 and is not listed in this section does not have a known ACGIH TLV, OSHA PEL or supplier recommended occupational exposure limit.

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines.

Respiratory Protection

Respiratory protection is recommended in insufficiently ventilated working areas and during heating or spraying. For components with occupational exposure limits, when workers are facing concentrations above those limits, they must use appropriate certified respirators.

Hand Protection

Ensure gloves remain in good condition during use and replace if any deterioration is observed. Permeation resistant gloves., Nitrile rubber gloves., Avoid natural rubber gloves., Do not wear PVC gloves, as PVC absorbs acrylates.

Eye Protection

Chemical safety goggles or safety glasses with side-shields.

Skin Protection

Permeation resistant clothing, Gloves, long sleeved shirts and pants.

Additional Protective Measures

Ultraviolet (UV) light source is used for curing this product. UV light can be hazardous to unprotected skin and eyes. Protective eyewear should always be worn when working in UV curing areas. Skin protection such as long sleeves, long pants, and gloves should be worn when UV lights are being used. Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

9. Physical and Chemical Properties

State of Matter:	liquid
Color:	Colorless to light yellow
Odor:	characteristic
Odor Threshold:	No Data Available
pH:	No Data Available
Melting Point:	
Boiling Point:	
Flash Point:	> 93 °C (> 199.4 °F) (closed cup)
Evaporation Rate:	No Data Available
Lower explosion limit:	No Data Available
Upper Explosion Limit:	No Data Available

Vapor Pressure:	No Data Available
Vapor Density:	No Data Available
Density:	1.12 g/cm ³ @ 20 °C (68 °F)
Relative Vapor Density:	No Data Available
Specific Gravity:	No Data Available
Solubility in Water:	No Data Available
Partition Coefficient: n-octanol/water:	No Data Available
Auto-ignition Temperature:	No Data Available
Decomposition Temperature:	Stable under recommended storage conditions. The product is chemically stable.
Unblocking Temperature:	No Data Available
Dynamic Viscosity:	8,140 - 13,140 mPa.s @ 20 °C (68 °F)
Kinematic Viscosity:	> 7267 mm ² /s @ 20 °C (68 °F)
Bulk Density:	No Data Available
Molecular Weight:	No Data Available
Self Ignition:	not applicable

10. Stability and Reactivity

Hazardous Reactions

No hazardous reactions when stored and handled correctly.

Stability

Stable

Materials to Avoid

Exothermic reaction with: Free radical initiators, Peroxides, strong alkalis, Strong acids, Reactive metals

Conditions to Avoid

Heat Exposure to sunlight. Protect from freezing. Product contains an inhibitor system. Must be inhibited to prevent hazardous polymerization. Inhibitor only effective in the presence of oxygen.

Hazardous Decomposition Products

By Fire and Thermal Decomposition: Carbon dioxide (CO₂), carbon monoxide (CO), dense black smoke., Acrylate monomers, Aldehydes, Organic acids

11. Toxicological Information

Likely Routes of Exposure:	Skin Contact
	Eye Contact
	Ingestion
	Inhalation

Health Effects and Symptoms

Acute: May cause allergic skin reaction with symptoms of reddening, itching, swelling, and rash., Causes skin irritation with symptoms of reddening, itching, and swelling., Causes serious eye irritation with symptoms of reddening, tearing, swelling, and burning.

Chronic: Suspected of causing cancer., May damage fertility or the unborn child.

Toxicity Data for: DeSolite 3471-3-14

Acute Oral Toxicity

Material Name: DeSolite 3471-3-14

Material Number: 50025036

Acute toxicity estimate: 1,012 mg/kg (Calculation method)

Acute Inhalation Toxicity

no data available

Acute Dermal Toxicity

Acute toxicity estimate: 596.12 mg/kg (Calculation method)

Acute toxicity estimate: > 5,000 mg/kg (Calculation method)

Toxicity Data for: 1,1,1-trimethylol propane triacrylate

Acute Oral Toxicity

LD50: > 5,000 mg/kg (rat)

Acute Dermal Toxicity

LD50: 5,170 mg/kg (rabbit)
assuming density = 1.1 g/cm³

Skin Irritation

rabbit, OECD Test Guideline 404, irritating

Eye Irritation

rabbit, Draize, irritating

Sensitization

Skin sensitisation:: positive (Guinea pig)

Skin sensitisation:: positive (Guinea pig)

Repeated Dose Toxicity

16 days, dermal: NOAEL: > 200 mg/kg, (rat, male/female, 5 days/week)

Mutagenicity

Genetic Toxicity in Vitro:

Mammalian cell - gene mutation assay: positive (Mouse lymphoma cells (L5178Y/TK), Metabolic Activation: with/without)

Chromosome aberration test: positive (other mammalian peripheral blood lymphocytes, Metabolic Activation: with/without)

Ames test: ambiguous (Salmonella typhimurium, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (Mouse, male/female)
negative

Micronucleus Assay: negative (Mouse, male/female)
negative

Developmental Toxicity/Teratogenicity

rat, female, Oral, 10 days, daily, NOAEL (teratogenicity): > 500 mg/kg, NOAEL (maternal): 500 mg/kg,

Toxicity Data for: Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-

Acute Oral Toxicity

LD50: > 5,000 mg/kg (rat) (OECD Test Guideline 401)

Acute Dermal Toxicity

LD50: > 2,000 mg/kg (rat) (OECD Test Guideline 402)

Skin Irritation

rabbit, Non-irritating

Eye Irritation

rabbit, Non-irritating

Sensitization

Skin sensitization (local lymph node assay (LLNA)):: sensitizier (Mouse, OECD Test Guideline 429)

Repeated Dose Toxicity

90 Days, oral: NOAEL: 100 mg/kg, (Rat)

Mutagenicity

Genetic Toxicity in Vitro:

gene mutation test: negative (Bacteria, Metabolic Activation: with/without)

In vitro mammalian cell gene mutation test: negative (Chinese hamster lung cells)

Chromosome aberration test in vitro: negative (Chinese hamster lung cells)

Toxicity to Reproduction/Fertility

oral, (Rat) NOAEL (parental): 200 mg/kg, NOAEL (F2): 60 mg/kg, Reproductive effects have been observed in animal studies.

Paternal Effects - Spermatogenesis (including genetic material, sperm morphology, motility, and count), testes, epididymis, sperm duct

Developmental Toxicity/Teratogenicity

Rat, NOAEL (maternal): 150 mg/kg,

Toxicity Data for: Oligomer**Acute Oral Toxicity**

LD50: > 2,000 mg/kg (rat, female) (OECD Test Guideline 423)

Acute Dermal Toxicity

LD50: > 2,000 mg/kg (rat)

Skin Irritation

In vitro test system, OECD Test Guideline 439, positive

Eye Irritation

rabbit, OECD Test Guideline 405, slight irritant

Sensitization

Skin sensitization (local lymph node assay (LLNA)):: positive (Mouse, OECD Test Guideline 429)

Repeated Dose Toxicity

Oral: NOAEL: 1,000 mg/kg, (rat, male/female, daily)

Mutagenicity

Genetic Toxicity in Vitro:

Ames test: negative (Escherichia coli, Metabolic Activation: with/without)

Chromosome aberration test in vitro: negative (Human lymphocytes, Metabolic Activation: with/without)

Toxicity Data for: 2-Hydroxyethyl Acrylate

Acute Oral Toxicity

LD50: 540 mg/kg (rat)

Acute Inhalation Toxicity

LC50: > 1.45 mg/l, , vapour

Acute Dermal Toxicity

LD50: > 1,000 mg/kg (rat)

Skin Irritation

rabbit, Corrosive

Eye Irritation

rabbit, Corrosive

Sensitization

Skin sensitization (local lymph node assay (LLNA)):: positive (Mouse)

Repeated Dose Toxicity

1,5 a, Inhalative: NOAEL: 0.0024 mg/l, (rat, male/female)

Mutagenicity

Genetic Toxicity in Vitro:

gene mutation test: negative

Micronucleus test: positive (Mouse lymphoma cells, Metabolic Activation: without)

Genetic Toxicity in Vivo:

Micronucleus test: negative (Mouse)

Toxicological studies of a comparable product.

negative

Toxicity to Reproduction/Fertility

Two-generation study, (rat)

Developmental Toxicity/Teratogenicity

rat, NOAEL (maternal): 20 mg/kg,

Carcinogenicity:

1,1,1-trimethylol propane
triacrylate

IARC - Overall evaluation: 2B Possibly carcinogenic to humans.

12. Ecological Information

Ecological Data for 1,1,1-trimethylol propane triacrylate

Biodegradation

90 - 100 %, i.e. readily biodegradable

Toxicity to Aquatic Plants

EC50: 18.8 mg/l, (Desmodesmus subspicatus (Green algae), 72 h)

Ecological Data for Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- Acute and Prolonged Toxicity to Fish

Material Name: DeSolute 3471-3-14

Material Number: 50025036

LC50: 10 - 100 mg/l (Golden orfe (Leuciscus idus), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: 10 - 100 mg/l (Water flea (Daphnia magna), 48 h)

Toxicity to Aquatic Plants

EC50: 10 - 100 mg/l, (72 h)

Toxicity to Microorganisms

EC50: > 500 mg/l, (Wastewater bacteria, 17 h)

Ecological Data for Oligomer

Biodegradation

aerobic, 0 %, Exposure time: 28 d, i.e. not readily degradable

Acute and Prolonged Toxicity to Fish

No data available.

LC50: 20 mg/l (Fish, 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: 44 mg/l (Daphnia (water flea), 48 h)

EC50: 44 mg/l (Daphnia magna (Water flea), 48 h)

Toxicity to Aquatic Plants

NOEC: 2 mg/l, (Pseudokirchneriella subcapitata (green algae), 72 h)

EC50: 37 mg/l, (Pseudokirchneriella subcapitata (green algae), 72 h)

Ecological Data for 2-Hydroxyethyl Acrylate

Acute and Prolonged Toxicity to Fish

LC50: 4.8 mg/l (Fathead minnow (Pimephales promelas), 96 h)

EC50: 4.7 mg/l (Fathead minnow (Pimephales promelas), 96 h)

NOEC: 4.64 mg/l (Golden orfe (Leuciscus idus), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: 0.78 mg/l (Water flea (Daphnia magna), 48 h)

Additional Ecotoxicological Remarks

Very toxic to aquatic organisms.

13. Disposal Considerations

Waste Disposal Method

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions

Do not reuse empty container. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous.

14. Transportation Information

Land transport (DOT)

Non-Regulated

Sea transport (IMDG)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 2-(2-Ethoxyethoxy)ethyl acrylate, Trimethylolpropane triacrylate)

Hazard Class or Division: 9

UN number: UN3082

Packaging Group: III

Hazard Label(s): MISCELLANEOUS

Marine pollutant: Marine pollutant

Air transport (ICAO/IATA)

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (contains 2-(2-Ethoxyethoxy)ethyl acrylate, Trimethylolpropane triacrylate)

Hazard Class or Division: 9

UN number: UN3082

Packaging Group: III

Hazard Label(s): MISCELLANEOUS

Marine pollutant: Marine pollutant

15. Regulatory Information

United States Federal Regulations

US. Toxic Substances Control Act: Listed on the Active Portion of the TSCA Inventory.

No substances are subject to TSCA 12(b) export notification requirements.

US. EPA CERCLA Hazardous Substances (40 CFR 302.4) Components:

Acrylic Acid Ester Included in the regulation but with no data values. See regulation for further details

SARA Section 311/312 Hazard Categories:

Refer to hazard classification information in Section 2.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) Components:

None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required Components:

Acrylic Acid Ester

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):

Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<u>Concentration</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Oligomer	CAS# is a trade secret
10 - 30%	Acrylic Acid Ester	7328-17-8
7 - 13%	1,1,1-trimethylol propane triacrylate	15625-89-5
1 - 5%	Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	75980-60-8

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:

<u>Concentration</u>	<u>Components</u>	<u>CAS-No.</u>
10 - 30%	Acrylic Acid Ester	7328-17-8
0.1 - 1%	2-Hydroxyethyl Acrylate	818-61-1

California Proposition 65 List:

<u>Concentration</u>	<u>Components</u>	<u>CAS-No.</u>
7 - 13%	1,1,1-trimethylol propane triacrylate	15625-89-5
<0.1%	Toluene	108-88-3

CFATS (Chemical Facility Anti-Terrorism Standards) Chemicals

To the best of our knowledge, this product does not contain Appendix A Chemicals of Interest (COI), at or above the Screening Threshold Quantity (STQ), as defined by the Department of Homeland Security Chemical Facility Anti-terrorism Standard (CFATS, 6 CFR Part 27).

Based on information provided by our suppliers, this product is considered "DRC Conflict Free" as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7-40-10; Date: 2012-08-22).

16. Other Information

The method of hazard communication for Covestro LLC is comprised of product labels and safety data sheets. Safety data sheets for all of our products and general product declarations are available for download at www.productsafetyfirst.covestro.com.

Contact: Product Safety Department
Telephone: (412) 413-2835
Version Date: 12/16/2022
SDS Version: 1.3

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