SDS: 0018401
Date Prepared: 11/28/2022

SAFETY DATA SHEET

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1. IDENTIFICATION

Product Name:	**EBECRYL® 8210 RADIATION CURING RESINS**
Synonyms:	None
Product Description:	Aliphatic urethane acrylate resin
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Intended/Recommended Use:	Coatings & Inks

Allnex USA Inc., 9005 Westside Parkway, Alpharetta, Georgia 30009, USA
For Product and all Non-Emergency Information call your local Allnex contact point or contact us at http://www.allnex.com/contact

EMERGENCY PHONE (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:
+1-866-928-0789 (toll free) or +1-215-207-0061 (Carechem 24 - Allnex29003-NCEC)
See Section 16 for Emergency phone numbers for other regions.

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2. HAZARDS IDENTIFICATION

GHS Classification
Reproductive Toxicant Hazard Category 1B
Serious Eye Damage / Eye Irritation Hazard Category 2B
Aquatic Environment Acute Hazard Category 2
Aquatic Environment Chronic Hazard Category 2

LABEL ELEMENTS

Signal Word
DANGER

Hazard Statements
May damage fertility or the unborn child
Causes eye irritation
Toxic to aquatic life
Toxic to aquatic life with long lasting effects

Precautionary Statements
Obtain special instructions before use.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash face, hands and any exposed skin thoroughly after handling.

Avoid release to the environment.
IF exposed or concerned: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local and national regulations.

Hazards Not Otherwise Classified (HNOC), Other Hazards
Contact with skin may cause a cross-allergic reaction in persons already sensitized to acrylates.
Polymerization may occur from excessive heat, contamination or exposure to direct sunlight.

3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

Component / CAS No.	%	GHS Classification
di(trimethylolpropane)tetraacrylate (EU CAS 1393932-71-2) 94108-97-1	60 - 70	Eye Irrit. 2A (H319) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)
Dibutyltin dilaurate 77-58-7	< 0.15	Muta. 2 (H341) Repr. 1B (H360FD) STOT RE 1 (H372) STOT Single 1 (H370) Skin Corr. 1C (H314) Eye Dam. 1 (H318) Skin Sens. 1B (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

Additional GHS classification or other information may be included in this section but has not been adopted by OSHA. See Section 16 for full text of H phrases.

4. FIRST AID MEASURES

First-aid Measures

Inhalation:
Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

Skin Contact:
Wash immediately with plenty of water and soap.

Eye Contact:
Rinse immediately with plenty of water for at least 15 minutes.

Ingestion:
If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Most Important Symptoms and Effects, Acute and Delayed
None known.

Immediate Medical Attention and Special Treatment

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Notes To Physician:
No specific measures have been identified.

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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:
Use water spray or fog, carbon dioxide or dry chemical.

Unsuitable Extinguishing Media:
high pressure water jet.

Protective Equipment:
Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See SDS Section 8 (Exposure Controls/Personal Protection).

Special Hazards:
Keep containers cool by spraying with water if exposed to fire.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

Methods For Cleaning Up:
Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

Environmental Precautions:
Use appropriate containment to avoid environmental contamination. Avoid release to the environment.

References to other sections:
See Sections 7, 8 and 13 for additional information.

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7. HANDLING AND STORAGE

HANDLING

Precautions: Avoid release to the environment. Wash hands thoroughly after handling.

Special Handling Statements: Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid excessive heat, contamination or exposure to direct sunlight to prevent polymerization.

STORAGE
Store in a cool, dry, well ventilated place and keep container tightly closed. Keep away from heat sources and direct sunlight.

Storage Temperature: Room temperature
Reason: Quality.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:
Engineering controls are not usually necessary if good hygiene practices are followed.

Respiratory Protection:
For operations where inhalation exposure can occur use an approved respirator. Recommendations are listed below. Other protective respiratory equipment may be used based on user's own risk assessment.
Recommended respirators include those certified by NIOSH.

Recommended:
Full Face Mask with organic vapor cartridge, Type A filter (BP >65°C)

Eye Protection:
Wear eye/face protection such as chemical splash proof goggles or face shield.

Skin Protection:
Avoid skin contact. Wear impermeable gloves and suitable protective clothing.

Hand Protection:
Wear protective gloves. Recommendations are listed below. Other protective materials may be used based on user's own risk assessment. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred. Replace gloves immediately when torn or any change in appearance (dimension, color, flexibility etc.) is noticed.

Gloves for repeated or prolonged exposure - non exhaustive list:
Nitrile rubber (NBR), thickness: > 0.56 mm, break through time: up to 480 min

Gloves for short term exposure/splash protection - non exhaustive list:
Nitrile rubber (NBR), thickness: 0.1 mm, break through time: up to 30 min

The chemical resistance depends on the type of product and amount of product on the glove. Therefore gloves need to be changed when in contact with chemicals.

Not suitable gloves - non exhaustive list:
Latex gloves

Due to many conditions (e.g. temperature, abrasion) the practical usage of a chemical protective glove in practice may be much shorter than the permeation time determined through testing. Use PE gloves as under gloves for difficult situations like for instance: high exposure, unknown composition or unknown properties of the chemicals.

Additional Advice:
Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

Exposure Limit(s)

77-58-7 Dibutyltin dilaurate

OSHA (PEL):	0.1 mg/m^3 (TWA)
ACGIH (TLV):	0.2 mg/m^3 Sn (STEL) (skin)
	0.1 mg/m^3 Sn (TWA)
Other Value:	Not established

Biological Exposure Limit(s)

No values have been established.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	clear to light yellow
Appearance:	liquid
Odor:	ester acrylate
Boiling Point:	> 100 °C 212 °F
Melting Point:	Not available
Vapor Pressure:	< 1.33 hPa @ 20 °C
Specific Gravity/Density:	1.1 g/cm³
Vapor Density:	Not available
Percent Volatile (% by wt.):	< 0.5 %
pH:	Not available
Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	Not available
Solubility In Water:	Insoluble
Volatile Organic Content:	Not available
Flash Point:	223 °C 433 °F Cleveland Open Cup
Flammable Limits (% By Vol):	Not applicable
Autoignition Temperature:	Not available
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not available
Odor Threshold:	Not available
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	Viscous liquid
Flammability:	Normal combustion
Oxidizing Properties:	Not available

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10. STABILITY AND REACTIVITY

Reactivity: No information available

Stability: Stable.

Conditions To Avoid: Avoid direct exposure to sunlight. Avoid temperatures higher than 60°C. Avoid friction with temperature increase as result. Avoid exposure to strong UV sources. Loss of dissolved air. Loss of polymerization inhibitor. Avoid direct contact with heat sources. Protect from direct sunlight.

Polymerization: May occur

Conditions To Avoid: Uncontrolled polymerization may cause rapid evolution of heat and increase in pressure that could result in violent rupture of sealed storage vessels or containers Hazardous polymerization can occur when exposed to direct sunlight. Hazardous exothermic polymerization can occur when heated.

Materials To Avoid: Avoid contact with peroxides.
Strong oxidizing agents.
Copper, copper alloys, carbon steel, iron and rust.
Unintentional contact with them should be avoided.
Hazardous polymerization may occur.

Hazardous Decomposition Products: oxides of carbon
hydrocarbons
Nitrous oxides (NOx)

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11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Skin, Eyes, Oral.

Acute toxicity - oral: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Acute toxicity - dermal: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Acute toxicity - inhalation: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.

Skin corrosion / irritation: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Serious eye damage / eye irritation: Causes eye irritation

Respiratory sensitization: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Skin sensitization: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.

Carcinogenicity: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Germ cell mutagenicity: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.
Reproductive toxicity: May damage fertility or the unborn child

Specific target organ toxicity (STOT) - single exposure: Not Classified. **-** Based on available data and/or professional judgment, the classification criteria are not met.
Specific target organ toxicity (STOT) - repeated exposure: Not Classified. **-** Based on available data and/or professional judgment, the classification criteria are not met.

Aspiration hazard: Not Classified **-** Based on available data and/or professional judgment, the classification criteria are not met.

PRODUCT TOXICITY INFORMATION

ACUTE TOXICITY DATA

oral	rat	Acute LD50			No data
dermal	rabbit	Acute LD50			No data
Inhalation	rat	Acute LC50	4	hr	No data

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	rabbit	Minimal By analogy with a product of similar composition.
Acute Irritation	eye	rabbit	mild By analogy with a product of similar composition.

ALLERGIC SENSITIZATION

Sensitization	Skin	No data
Sensitization	respiratory	No data

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay	No data

OTHER INFORMATION
The toxicity data above are the results from Allnex sponsored studies or from the available public literature.
The toxicological properties of this material have not been fully determined.
Contact with skin may cause a cross-allergic reaction in persons already sensitized to acrylates.

HAZARDOUS INGREDIENT TOXICITY DATA

Di(trimethylolpropane)tetraacrylate has an acute oral (rat) LD50 value of > 5000 mg/kg. The acute dermal (rat) LD50 is estimated at > 2000 mg/kg. This material was non-irritating to skin but was found to be irritating to eyes. No skin sensitization potential was observed up to the highest tested dose of 2.5% in a mouse local lymph node assay. Based on a battery comprising both in vitro and in vivo studies, genotoxic effects are not expected. No adverse effects on specific organs, fertility or developmental of the foetus were observed in a repeated dose and reprotox screening toxicity study up to the highest dose (1000 mg/kg). Carcinogenicity was not investigated.

Based on literature and actual test data, dibutyltin dilaurate (DBTL) has acute oral LD50 values ranging from less than 2000 to >2000 mg/kg. The acute dermal LD50 (rat) is >2000 mg/kg. Dibutyltin dilaurate (DBTL) may cause severe skin irritation. This substance may cause skin sensitization (allergic skin reactions). Repeated oral administration of DBTL has caused liver damage and death in animals. Neurotoxicity has also been observed in animals after oral exposure. DBTL may impair fertility, may cause harm to the unborn child and is suspected of causing genetic defects. Tumour formation was not observed in a 2-year chronic study conducted with mice and rats with a structural analogue. Organotin compounds are suspected of causing immunosuppressant effects.

WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov

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12. ECOLOGICAL INFORMATION

TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

Overall Environmental Toxicity: Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

The ecological assessment for this material is based on an evaluation of its components.

RESULTS OF PBT AND vPvB ASSESSMENT
This product does not meet the criteria for PBT (Persistent, Bioaccumulative and Toxic substance) or for vPvB (Very Persistent and Very Bioaccumulative).

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Fish
di(trimethylolpropane)tetraacrylate (EU CAS 1393932-71-2) (94108-97-1)	LC50 = 1.2 mg/l - Carp (Cyprinus carpio) (96h)
Dibutyltin dilaurate (77-58-7)	LC50 = 2 mg/L - Oryzias latipes (48h) LC50 = 3.1 mg/L - Brachydanio rerio (zebrafish)

Component / CAS No.	Toxicity to Water Flea
di(trimethylolpropane)tetraacrylate (EU CAS 1393932-71-2) (94108-97-1)	EC50 = >10 mg/l - Daphnia magna (48h)
Dibutyltin dilaurate (77-58-7)	EC50 = 0.463 mg/L - Daphnia magna

Component / CAS No.	Toxicity to Algae
di(trimethylolpropane)tetraacrylate (EU CAS 1393932-71-2) (94108-97-1)	ErC50 = >12 mg/L - Pseudokirchneriella subcapitata (72h) ErC10 = 0.51 mg/L - Pseudokirchneriella subcapitata (72h)
Dibutyltin dilaurate (77-58-7)	EC50 = 1 mg/L - Scenedesmus subspicatus (algae)

Component / CAS No.	Partition coefficient
di(trimethylolpropane)tetraacrylate (EU CAS 1393932-71-2) (94108-97-1)	Log Kow = 4.14
Dibutyltin dilaurate (77-58-7)	Log Kow = 4.44

13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this SDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this SDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 3 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

US DOT

Dangerous Goods? X

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class: 9
Packing Group: III
UN/ID Number: UN3082
Transport Label Required: Miscellaneous
Marine Pollutant
Marine Pollutant
TECHNICAL NAME (N.O.S.): ACRYLATED RESIN

Comments: Marine Pollutants - DOT requirements specific to Marine Pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars or aircraft.

TRANSPORT CANADA

Dangerous Goods? X

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Hazard Class: 9
Packing Group: III
UN Number: UN3082
Transport Label Required: Miscellaneous
Marine Pollutant
Marine Pollutant
TECHNICAL NAME (N.O.S.): ACRYLATED RESIN

ICAO / IATA

Dangerous Goods? X
UN PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport Hazard Class: 9
Packing Group: III
UN Number: UN3082
Transport Label Required: Miscellaneous
TECHNICAL NAME (N.O.S.): ACRYLATED RESIN

IMO

Dangerous Goods? X
UN PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport Hazard Class: 9
UN Number: UN3082
Packing Group: III
Transport Label Required: Miscellaneous
Marine Pollutant
Marine Pollutant
TECHNICAL NAME (N.O.S.): ACRYLATED RESIN

SPECIAL PRECAUTIONS FOR USER
Protect against external heat sources higher than +40°C/104°F.

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15. REGULATORY INFORMATION

Inventory Information

United States (USA): All components of this product are designated as “Active” on the TSCA Inventory or are not required to be listed.

Canada: One or more components of this product are NOT included on the Canadian Domestic Substances List (DSL).

European Economic Area (including EU): When purchased and shipped from an Allnex legal entity based in the EEA (EU or Norway), this product is compliant with the registration of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt and/or registered.

Australia: One or more components of this product have NOT yet been included in the Australian Inventory of Industrial Chemicals (AIIC) or assessed by AICIS.

New Zealand: This product is approved or exempt under the Hazardous Substances and New Organisms (HSNO) Act.

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

Japan: All components of this product are included on the Japanese (ENCS and ISHL) inventories or are not required to be listed on the Japanese inventories.

Korea: One or more components of this product are NOT included on the Korean (ECL) inventory.

Philippines: One or more components of this product are NOT included on the Philippine (PICCS) inventory.

Taiwan: All components of this product are included in the Taiwan chemical substance inventory or are not required to be listed on the Taiwan chemical substance inventory (TCSI).

Switzerland: All components of this product are exempt from the new substance notification requirements for Switzerland (SR 813.11 art. 24-26).

OTHER ENVIRONMENTAL INFORMATION
The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

This product does not contain any components regulated under these sections of the EPA

PRODUCT HAZARD CATEGORY UNDER SECTIONS 311 AND 312 OF EPCRA

Physical Hazards
Not applicable

Health Hazards
Reproductive toxicity
Serious eye damage or eye irritation

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16. OTHER INFORMATION

NFPA Hazard Rating (National Fire Protection Association)
Health: 1 - Materials that, under emergency conditions, can cause significant irritation.

Fire: 1 - Materials that must be preheated before ignition can occur.

Instability: 1 - Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures.

Reasons for Issue: Revised Section 11

Date Prepared: 11/28/2022
Date of last significant revision: 03/06/2022

Component - Hazard Statements
di(trimethylolpropane)tetraacrylate (EU CAS 1393932-71-2)
H319 - Causes serious eye irritation.
H401 - Toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.
Dibutyltin dilaurate
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H341 - Suspected of causing genetic defects.
H360FD - May damage fertility. May damage the unborn child.
H370 - Causes damage to organs.
H372 - Causes damage to organs through prolonged or repeated exposure.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

Emergency phone numbers for other regions

Asia Pacific
Australia: +61 1800 022 037 (Allnex Australia)
China (PRC): +86(0)532 8388 9090 (NRCC)
India: 000 800 100 7479 (toll free) or +65 3158 1198 (Carechem 24)
Indonesia: 007 803 011 0293 (Carechem 24)
Japan: 0120 015 230 (toll free) (Carechem 24)
Korea: +82 2 3479 8401 (Carechem 24)
Malaysia: +60 3 6207 4347 (Carechem 24)
New Zealand: +64 0800 803 002 (Allnex New Zealand)
Philippines: +63 2 231 2149 (Carechem 24)
Taiwan: +886 2 8793 3212 (Carechem 24)
Vietnam: +84 8 4458 2388 (Carechem 24)
All Others: +65 3158 1074 (Carechem 24)
Europe
+44 (0) 1235 239 670 (Carechem 24)
Middle East, Africa
+44 (0) 1235 239 671 (Carechem 24)
Latin America
Brazil: +55-800-707-7022 (toll free) or +55-11-98149-0850 (Suatrans 24)
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Mexico and all others: +52-555-004-8763 (Carechem 24)

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