

## SAFETY DATA SHEET

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### 1. IDENTIFICATION

**Product Name:** EBECRYL® 438 radiation curing resins  
**Synonyms:** None  
**Product Description:** Chlorinated polyester in oligotriacrylate  
**Molecular Formula:** Mixture  
**Molecular Weight:** Mixture  
**Intended/Recommended Use:** Radiation curable coating ingredient, 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

Serious Eye Damage / Eye Irritation Hazard Category 2A

Skin Sensitizer Hazard Category 1B

Aquatic Environment Acute Hazard Category 2

#### LABEL ELEMENTS



#### Signal Word

WARNING

#### Hazard Statements

Causes serious eye irritation

May cause an allergic skin reaction

Toxic to aquatic life

#### Precautionary Statements

Wash face, hands and any exposed skin thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

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.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Specific treatment (see supplemental first aid instructions on this label).

Wash contaminated clothing before reuse.

Dispose of contents/container in accordance with local and national regulations.

#### **Hazards Not Otherwise Classified (HNOC), Other Hazards**

Polymerization may occur from excessive heat, contamination or exposure to direct sunlight.

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### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### **HAZARDOUS INGREDIENTS**

<b>Component / CAS No.</b>	<b>%</b>	<b>GHS Classification</b>
Glycerol propoxylated, esters with acrylic acid 52408-84-1	35 - 45	Eye Irrit. 2A (H319) Skin Sens. 1B (H317) Aquatic acute 2 (H401)
Chlorinated polyester acrylate -	40 - 70	Skin Irrit. 3 (H316) Eye Irrit. 2A (H319)

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.

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### **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. Remove contaminated clothing and shoes without delay. Obtain medical attention. Do not reuse contaminated clothing without laundering. Destroy or thoroughly clean shoes before reuse.

##### **Eye Contact:**

Rinse immediately with plenty of water for at least 15 minutes. Obtain medical advice if there are persistent symptoms.

##### **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:**

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:** Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves and eye/face protection.

**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:** Store at 4 - 40 °C

**Reason:** Quality.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Measures:

Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure when spraying or curing at elevated temperatures.

### 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. Eyewash equipment and safety shower should be provided in areas of potential exposure.

### Skin Protection:

Avoid skin contact. Wear impermeable gloves and suitable protective clothing. Barrier creams may be used in conjunction with the gloves to provide additional skin protection.

### 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:

Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water.

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### Exposure Limit(s)

No values have been established.

### Biological Exposure Limit(s)

No values have been established.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Color:</b>	clear pale yellow
<b>Appearance:</b>	clear liquid
<b>Odor:</b>	ester-like
<b>Boiling Point:</b>	> 100 °C
<b>Melting Point:</b>	Not available
<b>Vapor Pressure:</b>	< 1.33 hPa @ 20 °C
<b>Specific Gravity/Density:</b>	1.28 g/cm <sup>3</sup>
<b>Vapor Density:</b>	Not available
<b>Percent Volatile (% by wt.):</b>	< 0.3 %
<b>pH:</b>	Not available
<b>Saturation In Air (% By Vol.):</b>	Not available
<b>Evaporation Rate:</b>	Not available
<b>Solubility In Water:</b>	Insoluble
<b>Volatile Organic Content:</b>	Not available
<b>Flash Point:</b>	Non Flammable (polymerized at 206 °C) Cleveland Open Cup
<b>Flammable Limits (% By Vol):</b>	Not applicable
<b>Autoignition Temperature:</b>	Not available
<b>Decomposition Temperature:</b>	Not available
<b>Partition coefficient (n-octanol/water):</b>	Not available
<b>Odor Threshold:</b>	Not available
<b>Viscosity (Kinematic):</b>	Not available
<b>Viscosity (Dynamic):</b>	Very highly viscous liquid
<b>Explosive Properties:</b>	None.
<b>Oxidizing Properties:</b>	Not available

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## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	No information available
<b>Stability:</b>	Stable.
<b>Conditions To Avoid:</b>	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.
<b>Polymerization:</b>	May occur
<b>Conditions To Avoid:</b>	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.
<b>Materials To Avoid:</b>	Avoid contact with peroxides. Avoid free radical producing initiators. Avoid contact with reactive metals. Contact with alkalis. They give an exothermic reaction with the product. Unintentional contact with them should be avoided.
<b>Hazardous Decomposition Products:</b>	hydrogen chloride oxides of carbon hydrocarbons

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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 serious eye irritation

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

**Skin sensitization:** May cause an allergic skin reaction

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

**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	> 2000 mg/kg
dermal	rabbit	Acute LD50	> 2000 mg/kg
inhalation	rat	Acute LC50 4 hr	> 5 mg/l (Dust/Mist)

### LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	rabbit	Not irritating (tested)
Acute Irritation	eye	Irritating	

### ALLERGIC SENSITIZATION

Sensitization	Skin	Sensitizing
Sensitization	respiratory	No data

### GENOTOXICITY

#### Assays for Gene Mutations

Ames Salmonella Assay	No data
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**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.

Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms such as redness, blistering, dermatitis, etc.

The inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

**HAZARDOUS INGREDIENT TOXICITY DATA**

Glycerol propoxylated, esters with acrylic acid has acute oral (rat) and dermal (rabbit) LD50 values >2000 mg/kg bw, respectively. Serious corneal opacity and considerable redness and oedema were observed in an eye irritation study with rabbits. No dermal reactions were observed in a skin irritation study with rabbits. This material may cause dermal sensitization. Based on all available data, genotoxicity is not expected. No systemic toxicity was observed up to the highest dose level in a sub-chronic study via oral route with rats. Developmental toxicity is not expected and reproductive performance were not affected with a structural analogue.

The toxicological properties of chlorinated polyester acrylate have not been fully investigated. The acute toxicity LD50-oral rat is > 16g/kg. This material may cause moderate eye and mild skin irritation.



**WARNING:** Reproductive Harm – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**12. ECOLOGICAL INFORMATION****TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS**

**Overall Environmental Toxicity:** Toxic to aquatic life.

The ecological properties of this material have not been fully investigated.

**RESULTS OF PBT AND vPvB ASSESSMENT**

Not determined

**HAZARDOUS INGREDIENT TOXICITY DATA**

Component / CAS No.	Toxicity to Fish
Glycerol propoxylated, esters with acrylic acid (52408-84-1)	LC50 = 5.74 mg/L - Danio rerio (96hrs)
Chlorinated polyester acrylate (-)	Not available

Component / CAS No.	Toxicity to Water Flea
Glycerol propoxylated, esters with acrylic acid (52408-84-1)	EC50 = 91.4 mg/L - Daphnia Magna (48hrs)
Chlorinated polyester acrylate (-)	Not available

Component / CAS No.	Toxicity to Algae
Glycerol propoxylated, esters with acrylic acid (52408-84-1)	EC50 = 12.2 mg/L - <i>Desmodesmus subspicatus</i> (72hrs) EC10 = 2.06 mg/L - <i>Desmodesmus subspicatus</i> (72hrs)
Chlorinated polyester acrylate (-)	Not available

Component / CAS No.	Partition coefficient
Glycerol propoxylated, esters with acrylic acid (52408-84-1)	Log Kow = 2.52
Chlorinated polyester acrylate (-)	Not available

### 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? Not applicable/Not regulated

#### TRANSPORT CANADA

Dangerous Goods? Not applicable/Not regulated

#### ICAO / IATA

Dangerous Goods? Not applicable/Not regulated

#### IMO

Dangerous Goods? Not applicable/Not regulated



**SPECIAL PRECAUTIONS FOR USER**

Protect against external heat sources above +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:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the 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:** All components of this product are included in the Australian Inventory of Industrial Chemicals (AIIC) or are not required to be listed on AIIC.

**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:** All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory. When purchased from Allnex Korea or Chemart distributor this product is compliant with the ARECs (the Act on the Registration and Evaluation, etc. of Chemical Substances). All its components are either excluded, exempt, pre-notified and/or registered. When purchased from another allnex entity, please contact PSRA-KREACH@allnex.com to check the possibility to be covered by our Only Representative.

**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**

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

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## 16. OTHER INFORMATION

### NFPA Hazard Rating (National Fire Protection Association)

Health: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

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 2  
Revised Section 3  
Revised Section 12

**Date Prepared:** 10/07/2020

**Date of last significant revision:** 10/07/2020

### Component - Hazard Statements

Glycerol propoxylated, esters with acrylic acid

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H401 - Toxic to aquatic life.

Chlorinated polyester acrylate

H316 - Causes mild skin irritation.

H319 - Causes serious eye irritation.

### Emergency phone numbers for other regions

#### Asia Pacific

Australia: +61 1800 022 037 (Allnex Australia)

China (PRC): +86(0)25 8547 7110 (Jiangsu registration center) / +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: +81 345 789 341 (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)

Chile: +56 2 2582 9336 (Carechem 24)

Mexico and all others: +52-555-004-8763 (Carechem 24)

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Prepared By: Product Stewardship & Regulatory Affairs Department, <http://www.allnex.com/contact>

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