

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: EBECRYL® LEO 10553 radiation curing resin
Synonyms: None
Product Description: Amine modified polyetheracrylate
Molecular Formula: Mixture
Molecular Weight: Mixture
Intended/Recommended Use: Radiation curable coating ingredient

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

Skin Corrosion / Irritation Hazard Category 2

Serious Eye Damage / Eye Irritation Hazard Category 2A

LABEL ELEMENTS



Signal Word

WARNING

Hazard Statements

Causes skin irritation

Causes serious eye irritation

Precautionary Statements

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

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

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

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

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.
 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.

Hazards Not Otherwise Classified (HNOC), Other Hazards

Polymerization may occur from excessive heat, contamination or exposure to direct sunlight.
 Contact with skin may cause a cross-allergic reaction in persons already sensitized to acrylates.

3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

| Component / CAS No. | % | GHS Classification | Carcinogen |
|--|---------|--|------------|
| Tripropylene glycol diacrylate 42978-66-5 | < 0.6 | STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Skin Sens. 1B (H317) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411) | - |
| Dipropylene glycol diacrylate 57472-68-1 | < 0.5 | Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1B (H317) | - |
| Polyol acrylate - | 50 - 60 | Eye Irrit. 2A (H319) | - |
| Acrylated resin - | 40 - 50 | Skin Irrit. 2 (H315) 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.

4. FIRST AID MEASURES

First-aid Measures

Inhalation:

Material is not expected to be harmful if inhaled. Remove to fresh air.

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.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Use water spray or fog, carbon dioxide or dry chemical.

Unsuitable Extinguishing Media:

full 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.

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:

None known.

References to other sections:

See Sections 7, 8 and 13 for additional information.

7. HANDLING AND STORAGE

HANDLING

Precautions: Wash hands thoroughly after handling. Wear protective gloves and eye/face protection.

Special Handling Statements: Avoid excessive heat, contamination or exposure to direct sunlight to prevent polymerization.

STORAGE

Keep product away from heat, ignition sources, direct sunlight, oxidizing agents, acid chlorides, and acid anhydrides. Store product below 40 C (104 F) to maintain product integrity.

Storage Temperature: Store at 4 - 40 °C 39.2 - 104 °F

Reason: Quality.

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. 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.

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.

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.

Exposure Limit(s)

No values have been established.

Biological Exposure Limit(s)

No values have been established.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|-------------------------------|
| Color: | pale yellow to red |
| Appearance: | clear viscous liquid |
| Odor: | acrylate |
| Boiling Point: | > 100 °C |
| Melting Point: | Not available |
| Vapor Pressure: | < 1.33 hPa @ 20 °C |
| Specific Gravity/Density: | 1.12 g/cm ³ |
| Vapor Density: | Not available |
| Percent Volatile (% by wt.): | < 0.3 |
| 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: | > 100 °C Setaflash Closed 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): | Low viscous liquid |
| Explosive Properties: | None. |
| Oxidizing Properties: | Not available |

10. STABILITY AND REACTIVITY

| | |
|--|---|
| Reactivity: | No information available |
| Stability: | Stable. |
| Conditions To Avoid: | Avoid temperatures above 60°C (140°F). Avoid friction with temperature increase as result. Avoid exposure to strong UV sources. 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. 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. Hazardous polymerization may occur. |
| Hazardous Decomposition Products: | hydrogen cyanide (HCN) oxides of carbon nitrogen oxides (NOx) |

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eyes, Skin, 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: Causes skin irritation

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: 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: 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 |

LOCAL EFFECTS ON SKIN AND EYE

| | | | |
|------------------|--------|--------|------------|
| Acute Irritation | dermal | rabbit | Irritating |
| Acute Irritation | eye | rabbit | Irritating |

ALLERGIC SENSITIZATION

| | | |
|---------------|-------------|---------|
| Sensitization | Skin | No data |
| Sensitization | respiratory | |

GENOTOXICITY

Assays for Gene Mutations

AMES test (OECD#471)

Salmonella Typhimurium
Escherichia coli Not mutagenic

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. 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.

11. TOXICOLOGICAL INFORMATION

HAZARDOUS INGREDIENT TOXICITY DATA

Tripropylene glycol diacrylate has acute oral (rat) LD50 and acute dermal (rabbit) LD50 values of 6800 mg/kg and >2000 mg/kg, respectively. Direct contact causes skin and eye irritation. Overexposure to vapor or mist may cause respiratory irritation. Repeated contact may cause skin sensitization (allergic skin reaction). This material was not clastogenic in an in vivo mouse micronucleus assay.

Dipropylene glycol diacrylate has acute oral (rat) and dermal (rabbit) LD50 values of 4600 mg/kg and >2,000 mg/kg, respectively. Direct contact with this material may cause moderate skin irritation and may cause eye burns. Repeated or prolonged skin contact may cause skin sensitization.

Polyol acrylate has acute oral (rat) and estimated dermal (rabbit) LD50 values of > 2000 mg/kg and >2000 mg/kg, respectively. Moderately irritating to eyes and minimal to skin.

The toxicological properties of acrylated resin have not been fully investigated. Direct contact with this material may cause moderate eye and skin irritation.



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

12. ECOLOGICAL INFORMATION

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

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 |
|---------------------|------------------|
|---------------------|------------------|

| | |
|--|---|
| Trippropylene glycol diacrylate (42978-66-5) | LC50 4.5 - 10 mg/L - Leuciscus idus (96h) |
| Dipropylene glycol diacrylate (57472-68-1) | Not available |
| Polyol acrylate (-) | Not available |
| Acrylated resin (-) | Not available |

| Component / CAS No. | Toxicity to Water Flea |
|--|--|
| Trippropylene glycol diacrylate (42978-66-5) | EC50 = 88.7 mg/L - Daphnia magna (48h) |
| Dipropylene glycol diacrylate (57472-68-1) | Not available |
| Polyol acrylate (-) | Not available |
| Acrylated resin (-) | Not available |

| Component / CAS No. | Toxicity to Algae |
|--|--|
| Trippropylene glycol diacrylate (42978-66-5) | EC50 > 28 mg/L - Desmodesmus subspicatus (72h) |
| Dipropylene glycol diacrylate (57472-68-1) | Not available |
| Polyol acrylate (-) | Not available |
| Acrylated resin (-) | Not available |

| Component / CAS No. | Partition coefficient |
|--|-----------------------|
| Trippropylene glycol diacrylate (42978-66-5) | 2.77 |
| Dipropylene glycol diacrylate (57472-68-1) | Not available |
| Polyol acrylate (-) | Not available |
| Acrylated resin (-) | 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

15. REGULATORY INFORMATION

Inventory Information

United States (USA): All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

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 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 Chemical Substances (AICS) or assessed by NICNAS.

New Zealand: This product is NOT approved under the Hazardous Substances and New Organisms (HSNO) Act.

China: One or more components of this product are NOT included on the Chinese (IECSC) inventory. The company has obtained the required notification approvals from the Ministry of Environmental Protection (MEP) as per the "Environmental Administrative Measures for New Chemical Substance" for the component(s) not listed in the Chinese Inventory (IECSC). The product can be imported/manufactured in China ONLY under specific conditions.

Japan: One or more components of this product are NOT included on the Japanese (ENCS and/or ISHL) 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: One or more components of this product are NOT included in 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

Skin Corrosion or Irritation

Serious eye damage or eye irritation

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 11

Date Prepared: 08/25/2018

Date of last significant revision: 08/05/2016

Component - Hazard Statements

Tripropylene glycol diacrylate

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

H401 - Toxic to aquatic life.

H411 - Toxic to aquatic life with long lasting effects.

Dipropylene glycol diacrylate

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

Polyol acrylate

H319 - Causes serious eye irritation.

Acrylated resin

H315 - Causes 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)

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

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