

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: EBECRYL® 8314 RADIATION CURING RESINS
Synonyms: None
Product Description: Acrylate modified polyurethane resin
Molecular Formula: Mixture
Molecular Weight: Mixture
Intended/Recommended Use: Surface coating

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.

Trademarks indicated with ®, TM or * as well as the allnex name and logo are registered, unregistered or pending trademarks of Allnex Netherlands BV or its directly or indirectly affiliated allnex Group companies.

2. HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Inhalation) Hazard Category 4
Skin Corrosion / Irritation Hazard Category 2
Serious Eye Damage / Eye Irritation Hazard Category 2A
Skin Sensitizer Hazard Category 1A
Aquatic Environment Acute Hazard Category 2
Aquatic Environment Chronic Hazard Category 2

LABEL ELEMENTS



Signal Word
WARNING

Hazard Statements

Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Toxic to aquatic life
Toxic to aquatic life with long lasting effects

Precautionary Statements

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

Use only outdoors or in a well-ventilated area.

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

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

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

Avoid release to the environment.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

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

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

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.

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

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.

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

Component / CAS No.	%	GHS Classification
Isobornyl acrylate 5888-33-5	5 - 10	STOT Single 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Skin Sens. 1A (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Polyurethane resin -	60 - 70	Skin Irrit. 2 (H315) Eye Irrit. 2A (H319)
Methacrylate monomer -	10 - 12	Eye Irrit. 2A (H319) Skin Sens. 1 (H317)
Acrylated urethane -	15 - 17	Acute Tox. 3 (H331) Skin Sens. 1A (H317) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)

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. 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, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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). Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

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. Take up mechanically, placing in appropriate containers for disposal.

Environmental Precautions:

Avoid release to the environment.

References to other sections:

See Sections 7, 8 and 13 for additional information.

7. HANDLING AND STORAGE

HANDLING

Precautions: Avoid release to the environment. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing vapors or spray mist. Wear protective gloves and eye/face protection.

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

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 39 - 104 °F

Reason: Quality.

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 short term exposure/splash protection - non exhaustive list:

Laminated multilayer gloves, break through time: > 60 min

Nitrile rubber (NBR), thickness: > 0.56 mm, break through time: < 60 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.

Exposure Limit(s)

No values have been established.

Biological Exposure Limit(s)

No values have been established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	clear to hazy, colorless to amber
Appearance:	liquid
Odor:	acrylate
Boiling Point:	> 100 °C 212 °F
Melting Point:	Not available
Vapor Pressure:	< 0.1 kPa @ 25 °C
Specific Gravity/Density:	1.1 - 1.15 g/cm ³
Vapor Density:	Not available
Percent Volatile (% by wt.):	< 0.5
pH:	Not applicable
Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	Not available Non-volatile
Solubility In Water:	0 - 1.5 g/L Minimal
Volatile Organic Content:	Not available
Flash Point:	154 °C 309 °F Cleveland Open Cup
Flammable Limits (% By Vol):	Not available
Autoignition Temperature:	Estimated
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not available
Odor Threshold:	Not available
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	6600 - 12000 cP @ 25 °C Viscous liquid
Flammability:	Normal combustion
Oxidizing Properties:	No

10. STABILITY AND REACTIVITY

Reactivity: No information available

Stability: Stable.

Conditions To Avoid: Extreme heat, sparks, open flame, and oxidizers. Prevent loss of dissolved oxygen. Avoid excessive heat to closed containers. Stable under normal temperatures and pressure. Avoid direct exposure to sunlight. Excessively high temperatures and ignition sources.

Polymerization: May occur

Conditions To Avoid: Hazardous exothermic polymerization can occur when heated. Avoid contact with oxidizing agents, free radical initiators, sunlight or ultraviolet light, bases or amines.

Materials To Avoid: Iron or rust may trigger rapid exothermic polymerization.
Sunlight or ultraviolet light.
Excessive heat
Primary and secondary aliphatic amines.
Avoid sources of free radicals, peroxides and metal ions.
Hazardous polymerization may occur.

Hazardous Decomposition Products: oxides of nitrogen
hydrocarbons
soot when burned
Smoke, carbon monoxide and carbon dioxide.

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: Harmful if inhaled

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: 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	2 - 4 mg/l (Dust/Mist)

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	Irritating
Acute Irritation	eye	Irritating

ALLERGIC SENSITIZATION

Sensitization	dermal	Sensitizing
Sensitization	Inhalation	No data

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay	No data
-----------------------	---------

OTHER INFORMATION

The product toxicity information above has been estimated.

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

The oral (rat) and dermal (rabbit) LD50 values of isobornylacrylate were found to be > 2000mg/kg bw. Rabbit studies indicate that IBOA is not irritating. However, IBOA is still classified as irritant because it's included in Annex VI of CLP. After exposure via inhalation, irritation of the respiratory tract is not excluded. Animal studies have shown the potential to elicit allergic reactions upon dermal exposure. Based on in vitro studies genotox effects are not expected. Severe target organ toxicity was not seen in repeated dose studies with structural analogues. No developmental toxicity was observed and reproductive parameters were not affected. Carcinogenicity has not been investigated.

Acrylated resin may cause moderate eye and skin irritation. Delayed removal from the skin, may lead to blistering of the skin, even if no immediate irritation was noted.

Methacrylate monomer has acute oral (rat) and dermal (rat) values of > 2000 mg/kg bw. Moderately irritating to eyes. Although irritation effects are very limited upon dermal exposure, the substance elicited dermal sensitization (guinea pigs). In a weight of evidence approach including both in vitro and in vivo studies, it was concluded that the substance doesn't have a genotoxic potential. Based on screening data on the substance itself and chronic data on metabolites, this substance is not expected to cause reproductive toxicity or developmental effects, nor target organ toxicity.

Acrylated urethane has an acute oral (rat) LD50 value > 2000 mg/kg. Upon inhalation (aerosol), 100% mortality rate was observed at 1 mg/L air. The LC50 value is estimated between 0.5 and 1 mg/L air. Irritation was not seen with in vitro assays, but severe allergic reactions can occur upon dermal exposure. Genotoxicity was observed in some in vitro assays. No target organ toxicity was identified in a subacute study combined with reprotox screening.



WARNING: Cancer – 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. 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

Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Fish
Isobornyl acrylate (5888-33-5)	LC50 = 0.704 mg/L - Danio rerio (96hrs)
Polyurethane resin (-)	Not available
Methacrylate monomer (-)	Not available
Acrylated urethane (-)	Not available

Component / CAS No.	Toxicity to Water Flea
Isobornyl acrylate (5888-33-5)	NOEC = 0.092 mg/L - Daphnia magna (21d)
Polyurethane resin (-)	Not available
Methacrylate monomer (-)	Not available
Acrylated urethane (-)	Not available

Component / CAS No.	Toxicity to Algae
Isobornyl acrylate (5888-33-5)	EC50 = 1.98 mg/L - Pseudokirchnerella subcapitata (72hrs) NOEC = 0.405 mg/L - Pseudokirchnerella subcapitata (72hrs)
Polyurethane resin (-)	Not available
Methacrylate monomer (-)	Not available
Acrylated urethane (-)	Not available

Component / CAS No.	Partition coefficient
Isobornyl acrylate (5888-33-5)	4.52
Polyurethane resin (-)	Not available
Methacrylate monomer (-)	Not available
Acrylated urethane (-)	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? 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.): ISOBORNYL ACRYLATE

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.): ISOBORNYL ACRYLATE

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.): ISOBORNYL ACRYLATE

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.): ISOBORNYL ACRYLATE

SPECIAL PRECAUTIONS FOR USER

Protect against external heat sources higher than +40°C/104°F.

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.

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: 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: All components of this product are either listed on the Philippine (PICCS) inventory, have been assessed by Environmental Management Bureau (EMB) or are exempt from notification requirements.

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).

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

Acute toxicity (any route of exposure)
Skin Corrosion or Irritation
Respiratory or Skin Sensitization
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 3

Date Prepared: 11/07/2022

Date of last significant revision: 03/06/2022

Component - Hazard Statements

Isobornyl acrylate

- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.
- H400 - Very toxic to aquatic life.
- H410 - Very toxic to aquatic life with long lasting effects.

Polyurethane resin

- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.

Methacrylate monomer

- H317 - May cause an allergic skin reaction.
- H319 - Causes serious eye irritation.

Acrylated urethane

- H331 - Toxic if inhaled.
- H317 - May cause an allergic skin reaction.
- H401 - Toxic to aquatic life.
- H411 - 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)
- Chile: +56 2 2582 9336 (Carechem 24)
- Mexico and all others: +52-555-004-8763 (Carechem 24)

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

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation, and verification. Before using any product, read its label.
