

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: EBECRYL® 8896 radiation curing resins
Synonyms: None
Product Description: Aliphatic urethane acrylated polyester in butylacetate
Molecular Weight:
Intended/Recommended Use: Coatings and 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

Flammable Liquids Hazard Category 3

Specific Target Organ Toxicity - Single Exposure Hazard Category 3

Skin Corrosion / Irritation Hazard Category 2

Serious Eye Damage / Eye Irritation Hazard Category 2A

LABEL ELEMENTS



Signal Word

WARNING

Hazard Statements

Flammable liquid and vapor

May cause drowsiness or dizziness

May cause respiratory irritation

Causes skin irritation

Causes serious eye irritation

Precautionary Statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
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.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use CO₂, dry chemical, or foam to extinguish.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
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.
Store in a well-ventilated place. Keep cool.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
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.
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
Butyl acetate 123-86-4	~ 20	Flam. Liq. 3 (H226) STOT SE 3 (H336)
Urethane acrylate -	75 - 85	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:

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

Skin Contact:

Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

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.

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:

Remove sources of ignition. 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: Keep away from heat, sparks and open flame. - No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting and other equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves and eye/face protection. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated

area. Avoid breathing vapors or spray mist.

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. Containers must be bonded and grounded when pouring or transferring material.

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.

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. Since this product is absorbed through the skin, care must be taken to prevent skin contact and contamination of 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. Food, beverages, and

tobacco products should not be carried, stored, or consumed where this material is in use.

Exposure Limit(s)

123-86-4	Butyl acetate	
OSHA (PEL):	150 ppm (TWA)	
	710 mg/m ³ (TWA)	
ACGIH (TLV):	150 ppm (STEL)	
	50 ppm (TWA)	
Other Value:	Not established	

Biological Exposure Limit(s)

No values have been established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	clear to hazy
Appearance:	viscous liquid
Odor:	ester-like
Boiling Point:	100 - 200 °C 212 - 392 °F
Melting Point:	Not available
Vapor Pressure:	Not available
Specific Gravity/Density:	~ 1.06 g/cm ³
Vapor Density:	Not available
Percent Volatile (% by wt.):	~ 20
pH:	Not available
Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	Not available
Solubility In Water:	Immiscible with water
Volatile Organic Content:	Not available
Flash Point:	23 °C 73 °F (value for butyl acetate)
Flammable Limits (% By Vol):	Not available
Autoignition Temperature:	Not available
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	Not available
Odor Threshold:	Not available
Viscosity (Kinematic):	Not applicable
Viscosity (Dynamic):	5000 - 10000 mPa.s @ 60 °C
Explosive Properties:	Stable vapours can explode if exposed to flame.
Oxidizing Properties:	No

10. STABILITY AND REACTIVITY

Reactivity:	No information available
Stability:	Stable.
Conditions To Avoid:	Avoid contact with oxidizing agents. Avoid contact with oxidizing agents, bases or amines. Avoid friction with temperature increase as result. Avoid exposure to strong UV sources. Avoid direct contact with heat sources.
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 peroxides. Avoid contact with reactive metals. Avoid contact with strong alkali's. They give an exothermic reaction with the product. Unintentional contact with them should be avoided.
Hazardous Decomposition Products:	oxides of carbon smoke hydrocarbons soot nitrogen oxides (NOx)

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: 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: May cause drowsiness or dizziness. May cause respiratory irritation.

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
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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	Skin	Irritating
Acute Irritation	eye	Irritating

ALLERGIC SENSITIZATION

Sensitization	Skin	No data
Sensitization	respiratory	No data

GENOTOXICITY**Assays for Gene Mutations**

Ames Salmonella Assay	No data
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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.

Contact with skin may cause a cross-allergic reaction in persons already sensitized to acrylates.

11. TOXICOLOGICAL INFORMATION**HAZARDOUS INGREDIENT TOXICITY DATA**

Butyl acetate (CAS# 123-86-4) has acute oral (rat) and dermal (rabbit) LD50 values of 10,768 mg/kg and >17,600 mg/kg, respectively (RTECS). The acute 4-hr inhalation (rat) LC50 = >2000 ppm (9.5 mg/L)(NTP). Direct contact with this material may cause moderate eye and skin irritation. In humans, exposure concentrations of 200-300 ppm resulted in slight eye and nose irritation while short exposure to 3300 ppm caused extreme irritation of the eyes and nose (HSDB). Overexposure to solvent vapors may cause irritation of the eyes, nose, and throat. Severe inhalation overexposure may cause weakness, drowsiness, and unconsciousness. Prolonged dermal exposure may produce irritation of the skin. This material did not cause mutagenic activity when tested in the bacterial mutagenicity assay. When tested for reproductive effects in rats, fetotoxicity (stunted growth) and abnormalities of the musculoskeletal system was noted at an exposure concentration of 1500 ppm/7h/day during days 7-16 of pregnancy (HSDB).

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

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

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

This material is not classified as dangerous for the environment.

RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Fish
Butyl acetate (123-86-4)	LC50 17 - 19 mg/L - Pimephales promelas (96h) LC50 = 100 mg/L - Lepomis macrochirus (96h) LC50 = 62 mg/L - Leuciscus idus (96h)
Urethane acrylate (-)	Not available

Component / CAS No.	Toxicity to Water Flea
Butyl acetate (123-86-4)	EC50 = 72.8 mg/L - Daphnia magna (24h)
Urethane acrylate (-)	Not available

Component / CAS No.	Toxicity to Algae
Butyl acetate (123-86-4)	EC50 = 674.7 mg/L - Desmodesmus subspicatus (72h)
Urethane acrylate (-)	Not available

Component / CAS No.	Partition coefficient
Butyl acetate (123-86-4)	1.81
Urethane 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? X
PROPER SHIPPING NAME: RESIN SOLUTION
Hazard Class: 3
Packing Group: III
UN/ID Number: UN1866
Transport Label Required: Flammable Liquid

<u>Component / CAS No.</u>	<u>Hazardous Substances/Reportable Quantity of Product (lbs)</u>
Butyl acetate	25000

Comments: Hazardous Substances/Reportable Quantities - DOT requirements specific to Hazardous Substances only apply if the quantity in one package equals or exceeds the product reportable quantity.

TRANSPORT CANADA

Dangerous Goods? X
PROPER SHIPPING NAME: RESIN SOLUTION
Hazard Class: 3
Packing Group: III
UN Number: UN1866
Transport Label Required: Flammable Liquid

ICAO / IATA

Dangerous Goods? X
UN PROPER SHIPPING NAME: RESIN SOLUTION
Transport Hazard Class: 3
Packing Group: III
UN Number: UN1866
Transport Label Required: Flammable Liquid

IMO

Dangerous Goods? X
UN PROPER SHIPPING NAME: RESIN SOLUTION
Transport Hazard Class: 3
UN Number: UN1866
Packing Group: III
Transport Label Required: Flammable Liquid

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.

This product contains a substance that is regulated under a TSCA 5(e) Consent Order.

This product contains a substance subject to Significant New Use Rule 40 CFR 721.11013.

This substance may cause (i) sensitization. (ii) lung effects. (iii) cancer.

When using this substance: (i) avoid skin contact. (ii) avoid breathing the substance. (iii) use skin protection.

This product is subject to TSCA 12(b) Export Notification (P16-0367; Substituted heteromonocycle, polymer with substituted alkane and ethoxylated alkane, substituted heteromonocycle substituted alkyl ester-blocked).

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 Chemical Substances (AICS) or assessed by NICNAS.

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. The company has obtained the required notification approvals from Ministry of Environment (MOE) as per the "Act on the Registration and Evaluation of Chemical Substances of Korea (K-REACH)" for the component(s) not listed in the Korean Inventory (ECL). The product can be imported/manufactured in Korea ONLY under specific conditions. 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: One or more components of this product are NOT included in the Taiwan chemical substance inventory (TCSI). The company has obtained the required registration approvals from the Taiwan authority. The product can be imported/manufactured in Taiwan ONLY under specific conditions.

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.

Component / CAS No.	%	TPQ (lbs)	RQ(lbs)	S313	TSCA 12B
Butyl acetate 123-86-4	~ 20	None	5000	No	No
Urethane acrylate -	75 - 85	None		No	Yes

PRODUCT HAZARD CATEGORY UNDER SECTIONS 311 AND 312 OF EPCRA

Physical Hazards

Flammable (gases, aerosols, liquids, or solids)

Health Hazards

Skin Corrosion or Irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

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: 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions.

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

Reasons For Issue: Revised Section 15

Date Prepared: 12/30/2019

Date of last significant revision: 12/30/2019

Component - Hazard Statements

Butyl acetate

H226 - Flammable liquid and vapor.

H336 - May cause drowsiness or dizziness.

Urethane acrylate

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)

