SDS: 0018181
Date Prepared: 08/30/2022

SAFETY DATA SHEET

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1. IDENTIFICATION

Product Name:	**EBECRYL® 168 radiation curing resins**
Synonyms:	None
Product Description:	Methacrylated acidic compound
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Intended/Recommended Use:	Coatings & Inks

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

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

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2. HAZARDS IDENTIFICATION

GHS Classification
Serious Eye Damage / Eye Irritation Hazard Category 1
Skin Sensitizer Hazard Category 1B

LABEL ELEMENTS

Signal Word
DANGER

Hazard Statements
Causes serious eye damage
May cause an allergic skin reaction

Precautionary Statements
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.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water.

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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

Component / CAS No.	%	GHS Classification
Phosphoric acid 7664-38-2	5 - 10	Met. Corr. 1 (H290) Skin Corr. 1B (H314) Eye Dam. 1 (H318)
Acid modified methacrylate -	88 - 98	Eye Dam. 1 (H318) Skin Sens. 1B (H317)

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:
Flush with a continuous flow of lukewarm water for 20 minutes or until material is removed. Wash with plenty of water and soap. Remove contaminated clothing and shoes without delay. Obtain medical attention if symptoms persist. Do not reuse contaminated clothing without laundering. Destroy or thoroughly clean shoes before reuse.

Eye Contact:
For eye contact, immediately flush eyes for at least 15 minutes with running water. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water. If physician is not available, flush for an additional 15 minutes. Get immediate medical attention.

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.

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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:
Product may cause a slip hazard. Spilled material should be absorbed onto an inert material and scooped up. Flush spill area with water. If slipperiness remains apply more dry-sweeping compound.

Environmental Precautions:
None known.

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

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7. HANDLING AND STORAGE

HANDLING

Precautions: Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves and eye/face protection.

Special Handling Statements: Provide good ventilation of working area (local exhaust ventilation if necessary). This material corrodes steel at a rate less than 6.25 mm (0.25 inch) a year at a test temperature of 55 °C (130 °F). 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:
Utilize a closed system process where feasible. 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:
Prevent eye and skin contact. Provide eye wash fountain and safety shower in close proximity to points of potential exposure. Wear eye/face protection such as chemical splash proof goggles or face shield.

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

Exposure Limit(s)

7664-38-2 Phosphoric acid

OSHA (PEL):	1 mg/m^3 (TWA)
ACGIH (TLV):	3 mg/m^3 (STEL)
	1 mg/m^3 (TWA)
Other Value:	Not established

Biological Exposure Limit(s)

No values have been established.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	dark amber to brown
Appearance:	clear liquid
Odor:	acrylate
Boiling Point:	> 100 °C 212 °F
Melting Point:	Not available

Vapor Pressure:	0.66 Pa @ 20 °C
Specific Gravity/Density:	1.28 g/cm³
Vapor Density:	Not available
Percent Volatile (% by wt.):	< 0.5
pH:	Not available
Saturation In Air (% By Vol.):	Not available
Evaporation Rate:	Not available
Solubility In Water:	11.6 g/L @ 20 °C
Volatile Organic Content:	Not available
Flash Point:	148 °C 298.4 °F Cleveland Open Cup
Flammable Limits (% By Vol):	Not applicable
Autoignition Temperature:	340 °C
Decomposition Temperature:	Not available
Partition coefficient (n-octanol/water):	0.7 @ 23 °C
Odor Threshold:	Not available
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	850 - 1850 mPa.s @ 25 °C Medium viscous liquid
Flammability:	Normal combustion
Oxidizing Properties:	Not available

10. STABILITY AND REACTIVITY

Reactivity: No information available

Stability: Stable.

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

Polymerization: May occur

Conditions To Avoid: Keep away from heat sources and direct sunlight. Avoid exposure to strong UV sources. All sources of ignition. Avoid temperatures above 60 C (140 F).

Materials To Avoid:
Avoid contact with peroxides.
Copper, copper alloys, carbon steel, iron and rust.
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 Decomposition Products:
Carbon dioxide
Carbon monoxide (CO)
phosphorous compounds

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

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 (estimated)
Inhalation	rat	Acute LC50	4	hr	No data

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	rabbit	mild
Acute Irritation	eye	rabbit	Causes serious damage
Skin Irritation (OECD 404)	dermal	rabbit	mild

ALLERGIC SENSITIZATION

Sensitization	Skin	mouse	Sensitizing
Sensitization	respiratory	No data	

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay	Salmonella Typhimurium	Negative
In Vitro Mammalian Cell Gene Mutation Assay (HGPRT)	CHO cell	Negative

Assays for Chromosomal Aberrations

In Vitro Chromosomal Aberrations		Human Lymphocyte	Negative
oral (gavage)	rat	Combined 28-Day Repeated Dose Study With The Reproduction/Developmental Toxicity Screen	Actual

OTHER INFORMATION
The toxicity data above are the results from Allnex sponsored studies or from the available public literature.
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

Phosphoric acid has reported acute oral (rat) and acute dermal (rat) LD50 values of 3500 mg/kg and 2740 mg/kg, respectively. Phosphoric acid has an acute 1-hour inhalation LC50 (rat) of greater than 25.5 mg/m³. Phosphoric acid causes skin irritation and burns. Phosphoric acid has been reported to cause conjunctivitis and eye burns. Inhalation of acid mist can cause irritation of the lungs, upper respiratory tract, eyes and skin. Phosphoric acid has been reported to cause dermatitis. No genotoxic effects were seen in in vitro studies. No reproductive adverse effects were noted at the highest dose in animal studies. Prenatal toxicity studies on structural analogues have not shown any alerts. Carcinogenicity has not been investigated.

The toxicity of acid modified methacylate has not been fully investigated. Mildly to moderately irritating to skin. Moderately to severely irritating to eyes. Mildly to moderately irritating to respiratory system. Contact with skin may cause a cross-allergic skin reaction in persons already sensitized to acrylate materials.

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

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12. ECOLOGICAL INFORMATION

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

This material is not expected to be harmful to fish or aquatic organisms.

ALGAE TEST RESULTS

Test: Growth Inhibition (OECD 201)
Duration: 72 hr
Species: Green Algae (Selenastrum capricornutum)
> 100 mg/l ErC50

FISH TEST RESULTS

Test: Acute toxicity, freshwater (OECD 203)
Duration: 96 hr.
Species: Carp (Cyprinus carpio)
> 100 mg/l LC50

INVERTEBRATE TEST RESULTS

Test: Acute Immobilization (OECD 202)
Duration: 48 hr
Species: Water Flea (Daphnia magna)
> 100 mg/l EC50

DEGRADATION

Test: Biodegradability

Duration: 28 day **Procedure:** Ready biodegradability
71 % Readily Biodegradable

RESULTS OF PBT AND vPvB ASSESSMENT
Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Fish
Phosphoric acid (7664-38-2)	Not available
Acid modified methacrylate (-)	Not available

Component / CAS No.	Toxicity to Water Flea
Phosphoric acid (7664-38-2)	Not available
Acid modified methacrylate (-)	Not available

Component / CAS No.	Toxicity to Algae
Phosphoric acid (7664-38-2)	Not available
Acid modified methacrylate (-)	Not available

Component / CAS No.	Partition coefficient
Phosphoric acid (7664-38-2)	-0.9
Acid modified methacrylate (-)	Not available

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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.

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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
TECHNICAL NAME (N.O.S.): ARSENIC

Component / CAS No.	Hazardous Substances/Reportable Quantity of Product (lbs)
Arsenic	37593

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? 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 higher than +40°C/104°F.

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15. REGULATORY INFORMATION

Inventory Information

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

Canada: 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: All components of this product are included on the Philippine (PICCS) inventory or are not required

to be listed on the Philippine 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).

Turkey: When purchased directly from Allnex by a Turkish legal entity, this product is compliant with the PRE-registration requirements of KKDIK as all its components are either pre-registered, excluded and/or exempt.

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: 3 - Materials that, under emergency conditions, can cause serious or permanent 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 5

Date Prepared: 08/30/2022
Date of last significant revision: 03/06/2022

Component - Hazard Statements

Phosphoric acid
- H290 - May be corrosive to metals.
- H314 - Causes severe skin burns and eye damage.
- H318 - Causes serious eye damage.

Acid modified methacrylate
- H317 - May cause an allergic skin reaction.
- H318 - Causes serious eye damage.

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 Stewardship & Regulatory Affairs Department, http://www.allnex.com/contact