SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: EBECRYL® 3201 radiation curing resins
Synonyms: None
Product Description: Epoxy acrylate resin
Molecular Formula: Mixture
Molecular Weight: Mixture
Intended/Recommended Use: Radiation curable coating ingredient

2. HAZARDS IDENTIFICATION

GHS Classification
Skin Sensitizer Hazard Category 1B

LABEL ELEMENTS

Signal Word Warning

® indicates trademark registered in the U.S. Outside the U.S., mark may be registered, pending or a trademark. Mark is or may be used under license.
Hazard Statements
May cause an allergic skin reaction

Precautionary Statements
Avoid breathing dust/fume/gas/mist/vapours/spray. 
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local and national regulations.

Hazards Not Otherwise Classified (HNOC), Other Hazards
Polymerization may occur from excessive heat, contamination or exposure to direct sunlight.

3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Component / CAS No.</th>
<th>%</th>
<th>GHS Classification</th>
<th>Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy acrylate</td>
<td>18 - 24</td>
<td>Skin Sens. 1B (H317)</td>
<td>-</td>
</tr>
</tbody>
</table>

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

DESCRIPTION OF FIRST AID MEASURES

Eye Contact:
Rinse immediately with plenty of water for at least 15 minutes. 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.

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.

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

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None known

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS
**General Information:**
In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

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**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media:**
Use water spray or fog, carbon dioxide or dry chemical.

**Extinguishing Media to Avoid:**
high pressure water jet.

**Protective Equipment:**
Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

**Special Hazards:**
Keep containers cool by spraying with water if exposed to fire.

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**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions:**
Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

**Methods For Cleaning Up:**
Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

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

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**7. HANDLING AND STORAGE**

**HANDLING**

**Precautions:** Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

**Special Handling Statements:** None

**STORAGE**

Observe label precautions. Prevent unauthorised access. Keep away from sources of ignition. Keep away from oxidizing agents, from alkaline and acid materials. Containers which are opened must be carefully resealed and kept upright to prevent leakage. This material should not be stored for more than the period mentioned on the Technical Data Sheet (TDS). Store between 4°C and 40°C. Protect from direct sunlight. This might cause uncontrollable polymerization of the product with generation of heat. Storage in stainless steel, amber glass, amber polyethylene or baked phenolic lined container.

**Storage Temperature:** Store at 4 - 40 °C 40 - 100 °F

**Reason:** Quality.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
Engineering Measures:
Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure when spraying or curing at elevated temperatures.

Respiratory Protection:
For operations where inhalation exposure can occur use an approved respirator. Recommendations are listed below. Other protective respiratory equipment may be used based on user's own risk assessment. Recommended respirators include those certified by NIOSH.

Recommended:
Full Face Mask with organic vapor cartridge, Type A filter (BP >65°C)

Eye Protection:
Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

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

Hand Protection:
Wear protective gloves. Recommendations are listed below. Other protective materials may be used based on user's own risk assessment. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred. Replace gloves immediately when torn or any change in appearance (dimension, color, flexibility etc.) is noticed.

Gloves for repeated or prolonged exposure:
Nitrile rubber (NBR), thickness: > 0.56 mm, break through time: up to 480 min

Gloves for short term exposure:
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:
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>greenish to amber</td>
</tr>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic acrylate</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>0.013 hPa @ 20 °C</td>
</tr>
</tbody>
</table>
### 10. STABILITY AND REACTIVITY

**Stability:** Stable  

**Conditions To Avoid:** Avoid direct exposure to sunlight. Loss of dissolved air. Loss of polymerization inhibitor.  

**Polymerization:** May occur  

**Materials To Avoid:** Polymerization initiators including peroxides, strong oxidizing agents, copper, copper alloys, carbon steel, iron, rust, and strong bases. Hazardous polymerization may occur. 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 Decomposition Products:** oxides of carbon, uncombusted hydrocarbons (smoke)

### 11. TOXICOLOGICAL INFORMATION

#### PRODUCT TOXICITY INFORMATION

**Likely Routes of Exposure:** Skin, Eyes, Oral.

**ACUTE TOXICITY DATA**

<table>
<thead>
<tr>
<th>Route</th>
<th>Species</th>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>rat</td>
<td>Acute LD50</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>dermal</td>
<td>rabbit</td>
<td>Acute LD50</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>inhalation</td>
<td>rat</td>
<td>Acute LC50 4 hr</td>
<td>&gt; 5 mg/l (Dust/Mist)</td>
</tr>
</tbody>
</table>

**LOCAL EFFECTS ON SKIN AND EYE**

- **Acute Irritation**
  - dermal (rabbit): Not irritating
  - eye: No data

**ALLERGIC SENSITIZATION**

- Sensitization (skin): Sensitizing
- Sensitization (respiratory): No data

**GENOTOXICITY**
Assays for Gene Mutations
Ames Salmonella Assay No data

SPECIFIC TARGET ORGAN TOXICITY
Specific target organ toxicity (single exposure): No data
Specific target organ toxicity (repeated exposure): No data

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
The toxicological properties of epoxy acrylate have not been fully investigated. The LD50 oral (rat) and LD 50 dermal (rabbit) are estimated to be > 2000 mg/kg and > 2000 mg/kg, respectively. It is not expected to cause eye or skin irritation. Repeated or prolonged skin contact may cause allergic skin reactions.

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

<table>
<thead>
<tr>
<th>Component / CAS No.</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy acrylate</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

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 MSDS 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 MSDS (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:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

**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:** 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.

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 on the Taiwan inventory or are not required to be listed on the Taiwan inventory.

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 CLASSIFICATION UNDER SECTION 311 OF SARA

• Acute
• Reactivity

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: New Format

Date Prepared:  12/03/2014
Date of last significant revision:  12/03/2014

Component Hazard Phrases
Epoxy acrylate
H317 - May cause an allergic skin reaction.

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

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