

TAKPOXY-219 RESIN

DGEBA Liquid Epoxy Resin Modified with 20% Epoxy Novolac Resin

SECTION 1: Identification

Product Name	DGEBA / 20% Epoxy Novolac Blend
Product Code	[TAKPOXY-219-R]
Recommended Use	Epoxy resin component for coatings, adhesives, composites, and electrical laminates. Industrial use only.
Restrictions on Use	Not for consumer use. Not for food-contact applications unless separately qualified.
Manufacturer/Supplier	TAKAMOL Engineering Industries Factory # 301, South West 6A Industrial Area, 10 th of Ramadan, Ash-Sharqia Government, Egypt. (Postal Code: 44916) Phone: [+201066677258] Email: [info@takamol.com.eg]
Emergency Telephone	+201066677258

SECTION 2: Hazard(s) Identification

GHS Classification

- Skin Irritation — Category 2 (H315)
- Serious Eye Damage/Eye Irritation — Category 2 (H319)
- Skin Sensitization — Category 1 (H317)
- Hazardous to the Aquatic Environment, Chronic — Category 2 (H411)

GHS Label Elements

Signal Word: WARNING

Hazard Statements:

- H315 — Causes skin irritation
- H317 — May cause an allergic skin reaction
- H319 — Causes serious eye irritation
- H411 — Toxic to aquatic life with long lasting effects

Precautionary Statements:

- P261 — Avoid breathing vapor/mist
- P264 — Wash exposed skin thoroughly after handling
- P272 — Contaminated work clothing should not be allowed out of the workplace
- P280 — Wear protective gloves/eye protection/face protection
- P302+P352 — IF ON SKIN: Wash with plenty of water
- P305+P351+P338 — IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do; continue rinsing
- P333+P313 — If skin irritation or rash occurs: Get medical advice/attention
- P337+P313 — If eye irritation persists: Get medical advice/attention
- P273 — Avoid release to the environment

- P501 — Dispose of contents/container in accordance with local/regional/national/international regulations

Other Hazards

Repeated or prolonged skin contact may cause sensitization; cross-reactivity with other epoxy resins and hardeners is possible. Not classified as a PBT or vPvB substance based on available information. No data indicating endocrine-disrupting properties for the major resin components at time of writing.

SECTION 3: Composition / Information on Ingredients

Chemical Name	CAS No.	EC No.	wt %
Bisphenol A diglycidyl ether (DGEBA), n≈0	25068-38-6*	500-033-5	78 – 82%
Epoxy phenol-novolac resin	28064-14-4	500-006-8	18 – 22%
Proprietary additives (non-hazardous)	Mixture	—	≤ 2%

**DGEBA is a mixture of oligomers with n predominantly 0; low-molecular-weight species (CAS 1675-54-3, n=0) are frequently listed as the primary constituent responsible for sensitization hazard. Verify exact CAS numbers, EC numbers, and concentration ranges against the actual raw materials and formulation before issuing this SDS.*

SECTION 4: First-Aid Measures

- Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. Seek medical attention if symptoms persist.
- Skin Contact: Remove contaminated clothing. Wash skin thoroughly with soap and water. Do not use solvents to remove resin from skin. Seek medical attention if irritation or rash develops.
- Eye Contact: Rinse cautiously with water for at least 15 minutes, including under eyelids. Remove contact lenses if present. Seek immediate medical attention.
- Ingestion: Do not induce vomiting. Rinse mouth with water. Seek immediate medical attention.
- Most Important Symptoms/Effects: Skin and eye irritation; possible allergic skin reaction (sensitization) with repeated exposure.
- Notes to Physician: Treat symptomatically. Individuals previously sensitized to epoxy resins may react to low-level exposure.

SECTION 5: Fire-Fighting Measures

- Suitable Extinguishing Media: Dry chemical, carbon dioxide, foam, or water fog. Water spray may be used to cool containers.
- Unsuitable Extinguishing Media: Do not use a direct/solid water stream, which may spread burning material.
- Specific Hazards: Combustible liquid. Thermal decomposition may generate carbon monoxide, carbon dioxide, and irritating/toxic fumes (phenolic and aldehyde compounds).
- Special Protective Equipment: Wear self-contained breathing apparatus (SCBA) and full protective equipment for fires in enclosed spaces.

SECTION 6: Accidental Release Measures

- Personal Precautions: Wear appropriate PPE (see Section 8). Avoid skin and eye contact. Ensure adequate ventilation.
- Environmental Precautions: Prevent entry into drains, waterways, or soil. Toxic to aquatic organisms — contain spill.
- Containment/Cleanup: Contain spill with inert absorbent material (sand, vermiculite, clay). Collect into suitable, labeled containers for disposal. Clean residual area with detergent and water; avoid slip hazard from residual resin film.

SECTION 7: Handling and Storage

Handling

- Avoid contact with skin, eyes, and clothing. Avoid breathing vapor or mist, particularly if heated.

- Use only with adequate ventilation or local exhaust ventilation.
- Wash hands and exposed skin thoroughly after handling and before eating, drinking, or smoking.
- Keep away from strong oxidizers, strong acids, and strong bases.

Storage

- Store in tightly closed, labeled containers in a cool, dry, well-ventilated area, between 15 °C and 30 °C.
- Protect from freezing and from prolonged exposure to direct sunlight/high heat.
- Keep separate from amine-, anhydride-, and other curing-agent products to prevent uncontrolled reaction.

SECTION 8: Exposure Controls / Personal Protection

Occupational Exposure Limits

No specific OSHA PEL or ACGIH TLV is established for this blend as a whole. No component-specific exposure limits are currently established by OSHA/ACGIH for DGEBA or epoxy novolac resins (non-volatile at room temperature); apply general particulate/mist limits (e.g., OSHA PEL for Particulates Not Otherwise Regulated, 15 mg/m³ total dust, 5 mg/m³ respirable) if mist/aerosol is generated (e.g., spraying, sanding).

Engineering Controls

- Use local exhaust ventilation where mist, vapor, or dust may be generated (e.g., spray application, heating, sanding of cured product).

Personal Protective Equipment

- Eye/Face Protection: Chemical safety goggles; face shield for spray or splash operations.
- Skin Protection: Chemical-resistant gloves (e.g., nitrile or butyl rubber — verify breakthrough time with glove manufacturer for epoxy resins); long sleeves; chemical-resistant apron for bulk handling.
- Respiratory Protection: Not normally required at ambient temperature with adequate ventilation. Use an organic vapor/particulate respirator (NIOSH-approved) where mist or vapor exposure may exceed exposure limits, e.g., during heating, spraying, or sanding.
- General Hygiene: Eyewash station and safety shower should be available in the work area. Launder contaminated clothing before reuse.

SECTION 9: Physical and Chemical Properties

Appearance	Viscous liquid to semi-paste, amber
Odor	Mild, characteristic
pH	Not applicable (not water soluble)
Melting/Freezing Point	Not applicable (amorphous/no sharp melting point)
Boiling Point	Not determined (decomposes before boiling)
Flash Point (Closed Cup)	> 200 °C (ASTM D93)
Evaporation Rate	Negligible (< 0.01, butyl acetate = 1)
Flammability	Combustible liquid; not classified as flammable
Vapor Pressure	Negligible at room temperature
Density	1.16 – 1.20 g/cm ³ @ 25 °C
Solubility in Water	Insoluble
Partition Coefficient (log Kow)	~2.9 (DGEBA component, literature)
Viscosity	800-1000 mPa-s @ 25 °C

SECTION 10: Stability and Reactivity

- Reactivity: Reacts exothermically with amines, anhydrides, mercaptans, and other curing agents used to cross-link epoxy resins.
- Chemical Stability: Stable under recommended storage and handling conditions.
- Possibility of Hazardous Reactions: Uncontrolled polymerization can occur if mixed with curing agents in bulk without adequate heat dissipation, generating high exotherm.
- Conditions to Avoid: Excessive heat, direct sunlight, contamination with curing agents/catalysts.
- Incompatible Materials: Strong oxidizers, strong acids, strong bases, amines, anhydrides.
- Hazardous Decomposition Products: Thermal decomposition may produce carbon monoxide, carbon dioxide, and phenolic/aldehyde fragments.

SECTION 11: Toxicological Information

- Acute Oral Toxicity: LD50 (rat) > 2,000 mg/kg (DGEBA-type resins, literature range) — practically non-toxic by acute oral route.
- Acute Dermal Toxicity: LD50 (rabbit) > 2,000 mg/kg (literature range).
- Skin Corrosion/Irritation: Causes skin irritation (Category 2); repeated contact may cause dermatitis.
- Serious Eye Damage/Irritation: Causes serious eye irritation (Category 2).
- Respiratory or Skin Sensitization: Known skin sensitizer (Category 1); epoxy resins are a well-documented cause of allergic contact dermatitis in occupational settings. Not classified as a respiratory sensitizer based on available data.
- Germ Cell Mutagenicity: Not classified based on available data.
- Carcinogenicity: Not classified as a carcinogen by IARC, NTP, or OSHA based on available data for the resin components; monitor for updates as new data become available.
- Reproductive Toxicity: Not classified based on available data.
- Specific Target Organ Toxicity (STOT): Not classified for single or repeated exposure based on available data.
- Aspiration Hazard: Not classified (high viscosity, low aspiration potential).

SECTION 12: Ecological Information

- Toxicity: Toxic to aquatic life with long-lasting effects (Category Chronic 2, H411). Fish/aquatic invertebrate LC50/EC50 values in the 1–10 mg/L range are reported in the literature for DGEBA-type resins.
- Persistence and Degradability: Expected to be poorly biodegradable under standard test conditions; not readily biodegradable.
- Bioaccumulative Potential: Log Kow suggests moderate bioaccumulation potential for the DGEBA component; not classified as a PBT/vPvB substance based on available weight-of-evidence data.
- Mobility in Soil: Low mobility expected due to low water solubility and high viscosity.
- Other Adverse Effects: Avoid release to the environment; may cause physical fouling of aquatic organisms due to viscosity.

SECTION 13: Disposal Considerations

- Dispose of in accordance with applicable local, regional, national, and international regulations.
- Do not discharge to drains, waterways, or soil.
- Uncured resin and empty containers with residue may be regulated as hazardous waste depending on jurisdiction — confirm waste classification (e.g., US RCRA, EU Waste Framework Directive) with the appropriate regulatory body before disposal.
- Cured (fully cross-linked) resin is generally non-hazardous and may be disposed of as solid waste, subject to local regulation.

SECTION 14: Transport Information

UN Number	Not regulated as dangerous goods under normal conditions of transport (verify per mode/jurisdiction)
UN Proper Shipping Name	Not applicable / Not Restricted
Transport Hazard Class(es)	Not classified as dangerous goods (DOT/IATA/IMDG) based on typical formulation
Environmental Hazards	Marine pollutant status should be confirmed based on final packaged quantity and concentration

Transport classification must be confirmed against the actual product formulation, packaging, and mode of transport by a qualified DG/hazmat professional.

SECTION 15: Regulatory Information

- US TSCA: Components are expected to be listed on the TSCA Inventory — verify against the current EPA TSCA Inventory for the exact substances used.
- US OSHA HazCom 2012 (29 CFR 1910.1200): Classified per GHS as described in Section 2.
- EU REACH: DGEBA and epoxy novolac resins are registered substances under REACH — verify registration/authorization status (e.g., candidate list, SVHC status) for the specific grade supplied.
- EU CLP Regulation (EC 1272/2008): Classification and labeling should align with the harmonized/self-classification for the specific resin grade.
- Other Inventories: Verify listing status on other applicable national chemical inventories (e.g., DSL/NDSL Canada, China IECSC, Korea K-REACH, Australia AICS) prior to sale/use in those jurisdictions.

SECTION 16: Other Information

Revision Date: [16 August 2026] Supersedes: ['None'] Revision No.: 1

Key to Abbreviations: GHS = Globally Harmonized System; PBT = Persistent, Bioaccumulative, Toxic; vPvB = very Persistent, very Bioaccumulative; STOT = Specific Target Organ Toxicity; PEL = Permissible Exposure Limit; TLV = Threshold Limit Value.

Disclaimer: The information in this Safety Data Sheet is representative of DGEBA/epoxy-novolac resin chemistry generally and is provided for guidance only, based on data believed to be reliable at the time of preparation. It does not constitute a warranty of any kind. It is the responsibility of the user to determine the suitability of this information for their own particular use and to comply with all applicable laws and regulations. This document must be reviewed and validated by a qualified EHS/regulatory professional using batch- and formulation-specific data before use as an official Safety Data Sheet.