Safety Data Sheet

Prepared in OSHA Hazard Communication Standard (29 CFR 1910.1200, HazCom 2012) / GHS 16-section format. Revision date 2026-11-19. No measured value has been invented: finished-product values are "Reported on lot Certificate of Analysis" or "Not determined"; values labeled "typical, base fluid" are published carrier data.

1. IDENTIFICATION

Product identifier	Graphene Adhesive Additive
Product codes (SKUs)	GI-ADH-32OZ, GI-ADH-1GAL, GI-ADH-5GAL
Product form	Liquid/paste dispersion: graphene in bisphenol-A epoxy resin
Recommended use	Add to the adhesive or sealant system and mix until uniform.
Restrictions on use	Industrial/professional use only. Not for food, drug or cosmetic use. Not for direct consumer use.
Supplier / manufacturer	Graphene Integrations, LLC, 8101 Beatty Rd, Sherrills Ford, NC 28673, USA
Email	sales@grapheneintegrations.com
Website	grapheneintegrations.com
Phone	+1 (704) 659-3682
Emergency phone number	+1 (704) 659-3682 (24-hour emergency number)

2. HAZARD(S) IDENTIFICATION

GHS / OSHA HazCom 2012 classification	Skin Irritation Category 2; Eye Irritation Category 2A; Skin Sensitization Category 1; (Aquatic Chronic Category 2, GHS/transport). Based on the carrier at ≥ 80% of the mixture; source: carrier supplier SDS for bisphenol-A diglycidyl ether liquid epoxy resin (CAS 1675-54-3 / resin CAS 25068-38-6).
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.
Pictograms	GHS07 (exclamation mark); GHS09 (environment, not mandatory under OSHA)

Precautionary statements	P261 Avoid breathing mist/vapors. P264 Wash hands thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/eye 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 easy; continue rinsing. P333+P313 If skin irritation or rash occurs: get medical advice. P391 Collect spillage. P501 Dispose of contents/container per regulations.
Hazards not otherwise classified	Stains black; graphene-filled resin is electrically conductive. Exothermic if mixed with curing agents in bulk.
Ingredient(s) of unknown acute toxicity	Graphene is of unknown acute toxicity.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixture: graphene pre-dispersed in the liquid carrier below. Never supplied as a dry powder. Contains no carbon black.

Component	CAS number	Concentration (% by weight)
Graphene	1034343-98-0	Reported on lot Certificate of Analysis
Bisphenol-A diglycidyl ether epoxy resin (BADGE)	25068-38-6 / 1675-54-3	Balance
Dispersant (proprietary)	Not disclosed (trade secret)	About 5

4. FIRST-AID MEASURES

Eye contact	Rinse cautiously with water for at least 15 minutes, removing contact lenses if easy. Get medical attention.
Skin contact	Remove contaminated clothing. Wash with soap and plenty of water. If irritation or rash occurs, get medical attention. Wash clothing before reuse.
Inhalation	Move to fresh air. Get medical attention if symptoms occur.
Ingestion	Rinse mouth. Do not induce vomiting unless directed by medical personnel. Get medical attention.
Most important symptoms and effects	Skin irritation, redness; allergic skin reaction (rash) on repeated contact; eye irritation.
Immediate medical attention / special treatment	Treat symptomatically. Sensitized persons should avoid further contact.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Foam, dry chemical, carbon dioxide, water spray.
Unsuitable extinguishing media	Do not use a direct water jet.

Specific hazards	Combustion produces carbon monoxide, carbon dioxide, phenolics and smoke.
Firefighter protection	Self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear gloves, goggles and protective clothing; avoid skin contact. Floors become slippery.
Environmental precautions	Toxic to aquatic life: prevent entry to drains, sewers and waterways.
Containment and clean-up	Absorb with inert material (sand, vermiculite); collect in labeled containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling	Avoid all skin and eye contact; use with adequate ventilation. Mix before use (graphene may settle). Do not eat, drink or smoke in work areas.
Conditions for safe storage	Store in closed original containers in a cool, dry, well-ventilated place away from curing agents, strong acids, bases and oxidizers. Shelf life:.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No OSHA PEL or ACGIH TLV for the epoxy resin or graphene.
Engineering controls	General or local exhaust ventilation, especially when heated or sprayed.
Eye / face protection	Chemical goggles.
Skin / hand protection	Nitrile or butyl rubber gloves; protective clothing to prevent all skin contact.
Respiratory protection	If mist or vapors are generated (heating, spraying), NIOSH-approved organic vapor/particulate respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Viscous liquid/paste
Appearance / color	Black (graphene in clear resin)
Odor	Slight
pH	Not applicable
Boiling point	> 260 °C (carrier, typical)
Flash point	251 °C, Pensky-Martens closed cup (carrier, typical); finished: Reported on lot Certificate of Analysis
Vapor pressure	0.03 mbar at 77 °C (carrier, typical)
Relative density	1.17 (carrier, typical); finished: Reported on lot Certificate of Analysis
Solubility in water	Negligible

Viscosity	Reported on lot Certificate of Analysis
VOC content	Negligible (based on epoxy resin carrier, BADGE: very low vapor pressure, PubChem CID 2286)
Graphene content	Reported on lot Certificate of Analysis

10. STABILITY AND REACTIVITY

Reactivity	Reacts exothermically with amine/anhydride curing agents.
Chemical stability	Stable under recommended storage.
Possibility of hazardous reactions	Uncontrolled polymerization possible if large masses are mixed with curing agents.
Conditions to avoid	Heat, flames, bulk mixing with curatives.
Incompatible materials	Strong acids, strong bases, strong oxidizers, amines.
Hazardous decomposition products	Carbon monoxide, carbon dioxide, phenolics.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Skin and eye contact.
Acute toxicity	Carrier: oral LD50 (rat) 11,400 mg/kg; dermal LD50 > 2000 mg/kg (per carrier SDS). Graphene: Graphene was assigned no harmonized GHS classification. Published reviews (Fadeel et al., ACS Nano 2018, Safety Assessment of Graphene-Based Materials: https://pubmed.ncbi.nlm.nih.gov/30387986/) report that the main concern is inhaling dry, airborne particles. This product contains graphene only as a dispersion in a liquid, not as a powder. Toxicity data for this graphene grade in this form are not available.
Skin corrosion / irritation	Irritating to skin (carrier).
Serious eye damage / irritation	Irritating to eyes (carrier).
Sensitization	Skin sensitizer (carrier).
Carcinogenicity	Carrier: not listed by NTP, IARC (Group 3) or OSHA as a carcinogen. Graphene not listed. No carbon black.
Aspiration hazard	Not applicable (viscous).

12. ECOLOGICAL INFORMATION

Ecotoxicity	Carrier: toxic to aquatic life with long lasting effects (Aquatic Chronic 2). Graphene: limited data (Fadeel et al., ACS Nano 2018, Safety Assessment of Graphene-Based Materials: https://pubmed.ncbi.nlm.nih.gov/30387986/).
Persistence	Carrier not readily biodegradable; graphene persistent.
Bioaccumulative potential	Low to moderate (carrier).
Mobility in soil	Low.

Other	None known.

13. DISPOSAL CONSIDERATIONS

Waste treatment / disposal methods	Dispose of via licensed waste handler; uncured resin must not enter drains. Cured material is generally non-hazardous solid waste. RCRA status:.
Contaminated packaging	Empty completely, then recycle or dispose of per local regulations.

14. TRANSPORT INFORMATION

UN number / shipping (IMDG/IATA)	UN3082, Environmentally hazardous substance, liquid, n.o.s. (epoxy resin), Class 9, PG III (per carrier SDS).
Marine pollutant	Yes (carrier)
Special precautions	Keep containers upright and closed.

15. REGULATORY INFORMATION

TSCA	Epoxy resin (25068-38-6): listed. Graphene: Not identified on the public TSCA Chemical Substance Inventory. EPA has handled graphene and graphene nanoplatelets as new chemical substances (premanufacture notices with significant new use rules, e.g. 40 CFR 721.10844 and 721.11917). Some suppliers report graphene nanoplatelets under graphite (7782-42-5, TSCA active); that listing has not been applied to this product. Contact Graphene Integrations for the current TSCA status of the graphene in this product.
SARA 311/312	Skin irritation, eye irritation, skin sensitization
SARA 313	None known
California Proposition 65	Contains no carbon black.

16. OTHER INFORMATION

Prepared by	Graphene Integrations, LLC, 8101 Beatty Rd, Sherrills Ford, NC 28673, USA • sales@grapheneintegrations.com
Revision date	2026-11-19
Revision	Version 1.1 (revised 2026-11-19)
Notes	Graphene is supplied only pre-mixed in a liquid carrier, never as a dry powder. Finished-product values are reported on each lot's Certificate of Analysis. Carrier data source (cited, typical values): carrier supplier SDS for bisphenol-A diglycidyl ether liquid epoxy resin (CAS 1675-54-3 / resin CAS 25068-38-6). Graphene notes: Fadeel et al., ACS Nano 2018, Safety Assessment of Graphene-Based Materials: https://pubmed.ncbi.nlm.nih.gov/30387986/.
Disclaimer	The information in this SDS is believed to be accurate as of the revision date. It does not constitute a warranty. Users should determine the suitability of this product for their own use.