Graphene 3D Printing Filament Additive

SKUs: GI-3DP-32OZ, GI-3DP-1GAL, GI-3DP-5GAL

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 3D Printing Filament Additive
Product codes (SKUs)	GI-3DP-32OZ, GI-3DP-1GAL, GI-3DP-5GAL
Product form	Liquid concentrate: graphene pre-dispersed in epoxidized soybean oil (ESO). Pourable at room temperature; added by the customer to their own PLA (or PETG/ABS/nylon) melt during filament compounding without pre-heating or melting. ESO is PLA-compatible; acetyl tributyl citrate (ATBC, CAS 77-90-7) is the alternative PLA plasticizer carrier, but one supplier SDS classifies it H302/H312/H315/H319/H332, so ESO was chosen as the lower-hazard option. Formulated for PLA filament; can also be added to PETG, ABS or nylon (PA) melts.
Recommended use	Compound into the filament polymer before extrusion.
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	Not classified as hazardous under OSHA HCS (29 CFR 1910.1200), based on the carrier SDS (carrier supplier SDS for epoxidized soybean oil). Graphene has no harmonized GHS classification.
Signal word	None
Hazard statements	None
Pictograms	None
Precautionary statements	None required. Good practice: avoid contact with eyes and skin; wash hands after handling.

Hazards not otherwise classified	Spills make floors very slippery. Stains black. Oil-soaked rags: dispose of in closed metal containers. Mists may form if heated or sprayed.
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
Epoxidized soybean oil	8013-07-8	Balance Reported on lot Certificate of Analysis

4. FIRST-AID MEASURES

Eye contact	Rinse with plenty of water for at least 15 minutes; get medical attention if irritation persists.
Skin contact	Wash with soap and water. Remove contaminated clothing.
Inhalation	Move to fresh air if mist is inhaled; get medical attention if symptoms occur.
Ingestion	Rinse mouth. Do not induce vomiting. Get medical attention if you feel unwell.
Most important symptoms and effects	Possible mild, temporary eye and skin irritation on prolonged contact.
Immediate medical attention / special treatment	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Foam, dry chemical, carbon dioxide, water spray/fog.
Unsuitable extinguishing media	Do not use a direct water jet on burning liquid.
Specific hazards	Combustible at high temperature. Combustion produces carbon monoxide, carbon dioxide and smoke.
Firefighter protection	Self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Spills are very slippery; wear gloves and safety glasses.
Environmental precautions	Keep out of drains, sewers and waterways.
Containment and clean-up	Soak up with inert absorbent (sand, clay, vermiculite); collect in labeled containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling	Mix or stir before use (graphene may settle). Add at room temperature; no heating or melting needed. Do not eat, drink or smoke in work areas.
Conditions for safe storage	Keep containers closed in a cool, dry, well-ventilated place away from strong oxidizers and strong acids; protect from direct sunlight. Shelf life:.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	Carrier: none established (per carrier SDS). Graphene: no OSHA PEL or ACGIH TLV established.
Engineering controls	General ventilation; local exhaust at hot processing steps (extruder/mixer) where mist or fumes form.
Eye / face protection	Safety glasses with side shields.
Skin / hand protection	Nitrile gloves.
Respiratory protection	Not normally required; NIOSH-approved respirator if mist exceeds limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Appearance / color	Black (graphene)
Odor	Mild, oily (carrier)
pH	Not applicable
Pour/freezing point	Not available on carrier SDS
Flash point	Not available on carrier SDS; finished: Reported on lot Certificate of Analysis
Density	Not available on carrier SDS; finished: Reported on lot Certificate of Analysis
Solubility in water	Insoluble
Viscosity (finished)	Reported on lot Certificate of Analysis
Graphene content	Graphene content: Reported on lot Certificate of Analysis. Typical dose of this liquid concentrate in the customer's melt or compound: 1% to 7% by weight depending on the job.

10. STABILITY AND REACTIVITY

Reactivity	Not reactive under normal conditions.
Chemical stability	Stable under recommended storage.
Possibility of hazardous reactions	None under normal conditions.
Conditions to avoid	Extreme heat, flames.

Incompatible materials	Strong oxidizers, strong acids.
Hazardous decomposition products	Carbon monoxide, carbon dioxide (in fire).

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Skin and eye contact.
Acute toxicity	Carrier: oral LD50 (rat) 40,000 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.
Irritation	Not classified (carrier); prolonged contact may cause mild irritation.
Sensitization	Not classified (carrier).
Mutagenicity / Carcinogenicity	Carrier not listed by NTP, IARC or OSHA. Graphene not listed. Contains no carbon black.
Aspiration hazard	Not classified (carrier).

12. ECOLOGICAL INFORMATION

Ecotoxicity	Carrier: not classified for aquatic hazard (per carrier SDS). Graphene: limited data (Fadeel et al., ACS Nano 2018, Safety Assessment of Graphene-Based Materials: https://pubmed.ncbi.nlm.nih.gov/30387986/).
Persistence	Carrier: vegetable-oil derived, expected biodegradable. Graphene: persistent.
Bioaccumulative potential	Not expected.
Mobility in soil	Low (floats on water).
Other	None known.

13. DISPOSAL CONSIDERATIONS

Waste treatment / disposal methods	Dispose of via licensed waste handler or used-oil recycler per local, state and federal regulations; do not discharge to drains. RCRA status:.
Contaminated packaging	Empty completely, then recycle or dispose of per local regulations.

14. TRANSPORT INFORMATION

UN number / shipping	US DOT: not regulated (per carrier SDS). IMDG: carrier SDS says consult mode-specific rules; one other ESO supplier SDS lists UN3082 Class 9 for sea.

Marine pollutant	Not a marine pollutant based on ESO carrier: ESO (8013-07-8) is not classified as hazardous to the aquatic environment, and two ESO supplier SDSs list it as not regulated under IMDG. One other ESO supplier SDS lists UN3082 for sea; shippers should check the SDS of the ESO lot used.
Special precautions	Keep containers closed and upright.

15. REGULATORY INFORMATION

TSCA	Epoxidized soybean oil (8013-07-8): 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	Not applicable
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 epoxidized soybean oil. 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.