



3D ADHESIVE SAFETY DATA SHEET REV. 2

Revision date: May 2020

Revision version: Rev. 3

SAFETY DATA SHEET

3D Adhesive

Classification in accordance with Regulation (EC) No 1272/2008

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name: 3D Adhesive

Substance name: Water-borne polymer emulsion of poly(vinyl acetate-ethylene)

1.2. Relevant identified uses of the substance or mixture

Water based Adhesive for CleanGreen3D printing process

REACH Registration Number: This substance is exempt from Registration according to the provisions of Article 2(7)(a) and Annex IV of REACH

1.3. Details of the supplier of the safety data sheet

CleanGreen3D Ltd

1, Grants Row

Lower Mount Street

Dublin 2

Email: info@cleangreen3d.com

SECTION 2: HAZARD IDENTIFICATION

2.1. Classification to Regulation (EC) No 1272/2008: This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging (CLP) of substances and mixtures. However, a safety data sheet is being supplied for it on request.

2.2. Label Elements: The mixture does not contain PBT or vPvB substances at a concentration of 0.1% or greater assessed in accordance with the criteria of Annex XIII

OTHER HAZARDS

Frequent contact can lead to skin and eye irritation, especially if product is allowed to dry out.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Chemical Characterisation: Water-borne polymer emulsion of poly (vinyl acetate-ethylene). This product does not contain any other substances in amounts resulting in health or environmental hazard classification according to the criteria in the respective EU Directives and Regulations. Full text for H&P statements is displayed in section 16.



SECTION 4: FIRST AID MEASURES

- 4.1. General Notes:** Remove contaminated, soaked clothing immediately and dispose of safely.
- 4.2. Following Inhalation:** No special measures required. If necessary, seek medical attention.
- 4.3. Following Skin Contact:** Wash skin with plenty of soap and water. If necessary, seek medical attention.
- 4.4. Following Eye Contact:** Rinse open eyes with plenty of water, also under the eyelids. Remove contact lenses and continue to rinse for at least 15 minutes. If necessary, seek medical attention.
- 4.5. Following Ingestion:** Rinse mouth and throat thoroughly with water. Drink water. If necessary, seek medical attention.
- 4.6. Self-Protection of the First Aider:** Avoid prolonged contact, follow general information above.
- 4.7. Symptoms and Effects, Both Acute and Acute Delayed:** Acute or delayed adverse effects during normal use are not known. However, if adverse health effects do arise, seek medical attention
- 4.8. Immediate Medical Attention and Special Treatment:** None Known.

SECTION 5: FIRE FIGHTING MEASURES

- 5.1. Suitable Extinguishing Media:** Water, Carbon Dioxide, Dry Powder and Foam are all suitable.
- 5.2. Unsuitable Extinguishing Media:** None Known.
- 5.3. Special Hazards Arising from the mixture:** May produce toxic fumes of carbon dioxide and carbon monoxide.
- 5.4. Advice for Fire fighters:** Wear self-contained breathing apparatus (SCBA) with protective clothing. Spillage and fire-fighting water could cause pollution of watercourse.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions

Non-Emergency Responders: Contaminated surfaces will be extremely slippery. Avoid contact with skin and eyes. Wear personal protective equipment as outlined in section 8.

Emergency Responders: No Special Requirements beyond those defined above for Non-Emergency Responders.

6.2. Environmental Precautions: Do not empty into drains, surface water or ground water.

6.3. Methods For Cleaning Up: Use chemical absorbent, pads or socks to prevent spillage from spreading. Transfer spill using shovel or water pump to closed container for disposal by licensed operator.

SECTION 7: HANDLING AND STORAGE

- 7.1. Measures to prevent fire:** None
- 7.2. Prevention of aerosol and dust generation:** None
- 7.3. Measures to protect the environment:** Use chemical absorbent pads to prevent contamination of drains, surface or ground water.
- 7.4. General occupational hygiene:** Should be handled in accordance with good industrial safety and hygiene practices.
- 7.5. Storage conditions:** Store between 5-30 °C for product integrity.
- 7.6. Packaging materials:** No special requirements.
- 7.7. Requirements for storage rooms & vessels:** No special requirements.
- 7.8. Storage class:** 12 Non-combustible liquids

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

- 8.1. Appropriate engineering controls:** N/A
- 8.2. Personal protective equipment:** Eye & face protection: Safety glasses with side shields if there is a risk of splashing.
- 8.3. Hand protection:** Suitable chemical resistant gloves.
- 8.4. Skin protection:** Normal work clothing, e.g. overalls.
- 8.5. Respiratory Protection:** None required.
- 8.6. Thermal Hazards:** N/A
- 8.7. Environmental Exposure Control:** Prevent uncontrolled release into the environment; no chemical safety report required. Refer to section 6.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

- 9.1. Appearance:** White Opaque liquid.
- 9.2. Odour:** Slight specific.
- 9.3. pH:** TBC
- 9.4. Solubility in water:** Miscible in all proportions.
- 9.5. Boiling Point:** Approximately 100°C at 101.3kPa
- 9.6. Flash Point:** N/A
- 9.7. Melting Point:** N/A
- 9.8. Auto flammability:** N/A
- 9.9. Explosive Properties:** N/A
- 9.10. Oxidising Properties:** N/A
- 9.11. Vapour Pressure:** 23 mbar at 20°C
- 9.12. Relative Density:** TBC
- 9.13 Viscosity:** 1900 centiPoise at 25°C

SECTION 10: STABILITY&REACTIVITY

10.1. Reactivity: None known.

10.2. Chemical Stability: Under storage at normal ambient temperatures (5°C to + 30°C), the product is stable.

10.3. Possibility of hazardous reactions: None known.

10.4. Conditions to avoid: None under foreseeable conditions of use.

10.5. Materials to avoid: Avoid contact with strong reducing agents and chemicals that react with water.

10.6. Hazardous decomposition products: In case of fire, the decomposition fume contains for the most part carbon dioxide (CO₂) carbon monoxide (CO) and water (H₂O).

SECTION 11: TOXICOLOGICAL INFORMATION

The following information is provided for analogues products as the individual formulation has not been tested.

11.1. Acute toxicity: LD50 oral, rat: >2000 mg/kg (not toxic)

11.2. Corrosive and irritant effects: Non-Irritant. No corrosive or irritating effects known for skin or eyes.

11.3. Sensitising effects: No sensitising effects known.

11.4. Long term effects: No long term effects known.

SECTION 12: ECOLOGICAL INFORMATION

The following information is provided for analogues products as the individual formulation has not been tested.

12.1. Toxicity (bacteria): EC₀ ~ 1,000 mg/L (OECD 209)

12.2. Acute toxicity (fish): LC₅₀ (zebra fish) > 500 mg/L; 96 hours (OECD 23).

12.3. Persistence & degradability: biodegradation > 80% (Zahn-Wellens-Test).

12.4. Bioaccumulation: Not expected (self assessment).

12.5 Water hazard class (WGK): 1: low hazard to waters (Self assessment).

12.6. Chemical Oxygen Demand (COD): 1,200 mg/g (calculated).

SECTION 13: DISPOSAL INFORMATION

13.1. Waste treatment methods: Unknown.

13.2. Product Disposal: Disposal of in compliance with local or state regulations governing the disposal of waste. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal. Diluted solution may be introduced into a biological purification plant, with permission of the responsible authorities.

13.3. Packaging Disposal: Contaminated packaging should be emptied as far as possible and after appropriate cleaning may be taken for reuse. Local or State regulations concerning reuse of packaging must be observed. The product is non-toxic and therefore presents a low environmental risk and therefore in general both the empty container and product residue may be disposed of in accordance with local regulation.

European Waste Catalogue (EWC): 08 04 16 Aqueous liquid waste containing adhesives or sealants, not otherwise specified.

SECTION 14: TRANSPORT INFORMATION

14.1. Transport Classification: Not classified as dangerous goods for road transport (RID/ADR), inland barges (ADNR), sea transport (IMDG) or air transport (IATA/ICAO).

SECTION 15: REGULATORY INFORMATION

15.1. Classification Labelling and Packaging: Based upon the chemical composition, available data and exposure experience, this product is not classified as dangerous according to the European Commission directives 67/548/EEC (DSD) or 1999/45/EC (DPD) (including all adaptation directives), the UN Globally Harmonized System of classification and labelling of chemicals (GHS) and the EU Regulation No 1272/2008 on Classification, Labelling and Packaging (CLP) of substances and mixtures (EU-GHS).

15.2. Reach Regulation 1907/2006/EC: This product is exempted from registration according to the provisions in Article 2 of REACH Regulation 1907/2006/EC. As consequence a Chemical Safety Assessment is not required.

This product is not subject to authorization as imposed under title VII or restriction as imposed under title VIII.

WGK Class: 1.

WGK Reg. No.: 662.

WGK Source: Classification according to VwVwS, Annex 1 or 2.



SECTION 16: OTHER INFORMATION

Traces of residual vinyl acetate may be found in this product (<1,000 ppm)

Product Category: Adhesives, Sealants.

List of Hazard & Precautionary Statements: None assigned to product.

This Safety Data Sheet has been compiled in accordance with Annex II of Regulation (EC)

No.1907/2006 (REACH) as amended by Regulation (EC) No. 453/2010.

DISCLAIMER

All information in this SDS is based on available data, applicable cross-references to comparable substances, our practical experience and reliable laboratory evaluations. However, the information is provided without warranty, expressed or implied, regarding its correctness. For this and any other reasons, we cannot assume responsibility for any other than its intended use, the circumstances under which the products are stored, handled or disposed. CleanGreen3D Ltd shall not be liable for any defects in our products or any other liabilities which you may suffer which arise from a failure on your part to follow our instructions as set out in the attached technical data sheet.