Material Safety Data Sheet:

Note: some of the components of the material have been censored to protect the material recipe.

1. **Substance and company identification:**

   Product name: Coffee grounds and orange peel composite “Grounded”.

2. **Hazard Classification:**

   Based on the material safety data sheets of the components used within the material, supplied by: XXXXXXXXXX.

   - **XXXXX:**

     NFPA:
     Health Hazards: 0

     Flammability Hazards: 0

     Instability Hazards: 0

     Special Hazards: N/A

   - **XXXXX:**

     Classification under CLP: This product has no classification under CLP.

     Label elements: This product has no label elements.

     PBT: This product is not identified as a PBT/vPvB substance.

   - **XXXXX:**

     Classification of the substance according to Regulation (EC) No 1272/2008: Not classified.

     Classification according to the Directive 67/548/EEC or Directive 1999/45/EC: Not classified.

     Label elements: None.

     Signal words: None.

3. **Material composition:**

Name	CAS number	EINECS
XXXXX	XXXXXXXXX	XXXXXXXXX
XXXXX	XXXXXXXXX	XXXXXXXXX
XXXXX	XXXXXXXXX	XXXXXXXXX
XXXXX	XXXXXXXXX	XXXXXXXXX
XXXXX	XXXXXXXXX	XXXXXXXXX
Coffee grounds	N/A	N/A
Orange peels	N/A	N/A

Coffee grounds, and orange peels do not have a CAS number or a EINECS number as they are biological waste, not chemicals.

4. **First aid measures:**

Skin contact: Wash immediately with soapy water.

Eye contact: Seek medical attention immediately.

Ingestion: Seek medical attention immediately.

5. **Firefighting measures:**

Extinguishing substance: Appropriate equipment must be used. Appropriate equipment includes: Fire extinguishers.

6. **Accidental release measures:**

Environmental precautions: The material is fully biodegradable. The material decomposes within 5 days when placed in water.

Methods to contain and clean up material: The material can be discarded into household waste. Should the material dry, the material can be peeled of surfaces, alternatively a damp cloth can be used to soften the material and wipe the material away.

7. **Handling and storage:**

Instructions for safe storage: Once mixed, the material should be placed inside an airtight container to prevent any drying out.

8. **Exposure controls:**

   Respiratory protection: Not required.

   Skin protection: Not required; Gloves suggested for users with irritable skin.

   Eye protection: Not required.

9. **Physical and chemical properties:**

   State: Solid.

   Colour: Dark brown with orange speckles (Orange speckles optional).

   Odour: Characteristic odour.

   Solubility within water: Decomposes within 5 days when placed within water.

   Viscosity: N/A.

   Compressive strength: 3.44 MPa

   Tensile strength: 279 N

10. **Stability and Reactivity:**

    Reactivity: Stable under recommended storage conditions.

    Stability: Stable under normal conditions and temperature.

    Conditions to avoid: Excessive heat and moisture.

11. **Toxicological data:**

    None of the components within the materials are either classified as being toxic or have data available which states they are toxic. Coffee grounds and orange peels are not classed as toxic as they are biological waste.

12. **Ecological considerations:**

    The material is fully biodegradable, as the material is composed using biological waste and natural binders, all of which are biodegradable. The material fully biodegrades when placed in water within 5 days.

13. Disposal considerations:

Release to atmosphere: Not hazardous; the material is fully biodegradable.

Release to water: Not hazardous; the material is fully biodegradable.

Release to natural environment: Not hazardous; the material is fully biodegradable.

Destruction of wate material: The material decomposes when placed within water.

14. Transport information:

Not required; the material is classified as being not hazardous.

15. Legislative information:

Not required; the material is classified as being not hazardous.

16. Other information:

This material safety data sheet is compiled through material testing, and referencing the material safety data sheets provided by manufactures of the: XXXXX, XXXXX and XXXXX (XXXXXXXXXX).

The material is a fully biodegradable, natural composite which consists of: used coffee grounds, orange peels, and natural binders.

The idea to use coffee grounds stems from the vast amount of coffee grounds which are discarded each year. It is estimated that the UK produces 500,000 tonnes of waste coffee grounds per year, with this contributing to 1.8 million tonnes of carbon emissions. As a result of this spent coffee grounds are an ideal base for the material as they are readily available and easy to process, whilst re-purposing spent coffee grounds prevents them from, being discarded into landfill and contributing to carbon emissions.

Whilst the orange peels help bind the material together, utilising the orange's pectin as a natural binder.

Used coffee grounds are collected from local coffee shops, before being dehydrated in order to remove any moisture and prevent the grounds from moulding. The coffee grounds are collected for free (allowing for the material to be made for cheaper), and they are dried using a dehydrator, meaning the grounds require very little energy to be dried out. As a result of this used coffee grounds are seen as an appropriate base for the material, as they are readily available, easy to source, and cheap to process.