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MATERIAL SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH)

1. Identification of the Substance / mixture and of the company undertaking

1.1 PRODUCT IDENTIFIER:

Product Names: Thermoplastic Road Marking Material (All Grades)

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified uses: Thermoplastic Road Marking by Screed, Extrusion, Spray.
Not recommended for any other use.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier Information:

Kestrel Thermoplastics Ltd,
89 Drumagarner Road,
Kilrea,
Co. Derry,
N.Ireland.
BT51 5TE.
Tel: +44 28 2954 0906
Fax:: +44 28 2954 1140
Email: ian@kestrelplastics.com

1.4 EMERGENCY TELEPHONE NUMBER:

Office hours only:
Tel: +44 28 2954 0906

2. Hazards Identification

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Regulation (EC) No: 1272/2008
Not a hazardous substance / mixture according to GHS.

DIRECTIVES 67/548/EEC or 1999/45/EC
This substance is not classified as dangerous according to Directive 67/548/EEC

2.2 LABEL ELEMENTS

Regulation (EC) No: 1272/2008

Precautionary Statement: P281 Use personal protective equipment as required.

Not a hazardous substance / mixture according to GHS.

DIRECTIVES 67/548/EEC or 1999/45/EC
Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.
The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 OTHER HAZARDS

POTENTIAL HEALTH EFFECTS

Skin :Contact with dust can cause mechanical irritation or drying of the skin.

Eyes :Mechanical irritation of the eyes is possible.

Ingestion :Unlikely route of exposure.

CERTIFIED PRODUCT
Manufactured under a BS EN ISO 9001: 2000
Quality System accepted by BSI
Licence No. KM09133
Manufacturers of Thermoplastic Road Marking Materials

Inhalation :Exposure to dust particles generated from this material may cause irritation of the respiratory tract.

Chronic Exposure :None reasonably foreseeable.

Further information :Does not require a hazard warning label, but normal safety precautions for handling of chemicals must be observed. The molten product can cause serious burns.

POTENTIAL ENVIRONMENTAL EFFECTS

Should not be released to the environment

3. Composition / Information on Ingredients

General: Contains synthetic resin, highly refined mineral oil, aggregates, extenders, polymers, solid pigments and reflective glass beads (reflective grades only)

Ingredient	***CAS / EC No:***	***Classification (EC) 1272/2008***	***Weight %***
Calcium Magnesium Carbonate	CAS 16389-88-1 EC-No 240-440-2	Not Classified	30 – 60%
Soda Lime Glass Beads	CAS No : 65997-17-3 EC-No: 266-046-0	Not Classified	0 – 40%
Resins		Not Classified	0 – 15%
Titanium Dioxide	CAS No: 13463-67-7 EC-No: 236-675-5	Not Classified	0 – 10%
Process Oil	CAS No: 68515-48-0 EC-No: 271-090-9	Not Classified	0 – 5%
Polymer		Not Classified	0 – 5%
Pigment		Not Classified	0 – 5%

Full Details of Risk and Hazard Phrases listed in Section 16.

4. First-aid measures

4.1 DESCRIPTION OF FIRST AID MEASURES

Powder Form

Eyes: Irrigate thoroughly with copious amounts of water. If irritation persists, seek medical attention.
Skin: Wash thoroughly with soap and water.
Inhalation: Move person to fresh air. If recovery is not rapid, seek medical attention
Ingestion: Wash out mouth with water. Obtain medical attention showing this sheet

Molten Form

Eyes : Immediately flush eyes with copious amounts of sterile water to dissipate heat and minimise injury. Seek immediate medical attention showing this sheet.
Skin : Immediately immerse or flush the affected part with copious amounts of sterile water to dissipate heat and limit injury. No attempt should be made to remove thermoplastic or any clothing that may be fused to damaged area. Seek medical attention showing this sheet.
Inhalation : In normal industrial use First Aid is not normally required for inhalation of fumes except to remove the person to fresh air.
Ingestion : Seek medical attention.

Medical Note

This composition is soluble in aromatic solvents i.e. Toluene, Xylene or in chlorinated hydrocarbon solvents – Chloroform, Dichloromethane. (Long exposure to these types of solvent is harmful.)

5. Fire-fighting measures

5.1. EXTINGUISHING MEDIA:

Not classified as flammable but will support combustion. Extinguish with foam, dry powder or Carbon Dioxide. **Do not use water as an extinguisher.**

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Risk of fire and explosion if product is overheated. Molten product reacts violently with water.
Hazardous Combustion Products: Smoke, Fumes, Incomplete combustion products, Oxides of Carbon, flammable hydrocarbons.

5.3. ADVICE FOR FIREFIGHTERS

In the event of fire and/or explosion do not breathe fumes. Use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Use water spray to cool fire exposed surfaces and to protect personnel.

6. ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For non-emergency personnel: Avoid contact with spilled material. Keep unnecessary and unprotected personnel away from the material. Do not touch or walk through spilt material. Avoid breathing dust. Wear protective clothing as described in Section 8 of this safety data sheet. Contact with hot molten material will cause severe burns.

For emergency responders:

6.2. ENVIRONMENTAL PRECAUTIONS

Should not be released into the environment. Prevent product from entering drains.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Cold Powdered Product - Sweep or vacuum clean for disposal. Avoid creating / breathing dust.

Hot Product -	Shut off source. Contain spillage. Allow to solidify. Do not allow molten material to enter into drains, sewers or water courses.
General -	Dispose of safely in accordance with local and national regulations.

6.4. REFERENCE TO OTHER SECTIONS
See Sections 8 and 13.

7. HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust. Avoid elevated temperatures for prolonged periods of time. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent small spills and leakage to avoid slip hazard. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Protect material from water as wet material will foam / spit if added in to molten product. Care should be taken when storing and handling this product. Apart from the specific nature of the polymer product, conditions such as humidity, sunlight and temperature have an influence on the way the product behaves during storage and handling. Special attention should be paid to avoid inappropriate stacking of palletised bags or other package units. Indeed, polymer products may be dimensionally unstable under certain conditions. Avoid conditions generating heat during transfer operations.

7.1.2. ADVICE ON GENERAL OCCUPATIONAL HYGIENE

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Individuals having sensitive skin may find it beneficial to use a barrier cream or moisturizer when excessive or prolonged contact with the skin is likely.

See also Section 8 for additional information on hygiene measures.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well ventilated area, away from incompatible materials (see section 10) and food and drink. Store under cover where possible to prevent moisture ingress into material. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3. SPECIFIC END USE(S)
Section 1.2 informs of the identified end-use as a Thermoplastic Road Marking material to be applied by Screed, Extrusion or Spray. Not recommended for any other use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Ingredient Comments:
No exposure limits noted for the ingredients contained in this mixture.

8.2. EXPOSURE CONTROLS

INGREDIENT COMMENTS
No exposure limits noted for ingredient(s).

PROTECTIVE EQUIPMENT

ENGINEERING MEASURES
Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits

HAND PROTECTION

Gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US).Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Individuals having sensitive skin may find it beneficial to use a barrier cream or moisturizer when excessive or prolonged contact with the skin is likely. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

BODY PROTECTION :
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

EYE PROTECTION

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If operating conditions cause high dust concentrations to be produced, use dust goggles.

RESPIRATORY PROTECTION :
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

OTHER PROTECTION
Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

HYGIENE MEASURES
Wash at the end of each work shift and before eating, smoking and using the toilet.

ENVIRONMENTAL CONTROLS
Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

9.PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance /Physical state	**:** Solid / Granular / Powder or Viscous Liquid
Colour	**:** White.
Odour	**:** Slight.
Odour threshold	**:** None.
pH	**:** Not applicable.
Melting point range	: 65 - 130°C.
Initial boiling point and boiling Range	**:** Not applicable.
Flash point (Closed Cup)	**:** > 230°C.
Evaporation rate	**:** Not applicable.
Flammability (solid, gas)	**:** Not applicable
Burning time	**:** Not applicable
Burning rate	**:** Not applicable.
Upper/lower flammability or explosive limits	: Not applicable.
Vapour pressure	: Not applicable.
Vapour density	**:** Not applicable.
Relative density	**:** 1.9 – 2.1 g/cm^3
Solubility(ies)	**:** Insoluble in water.
Partition coefficient	
n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: > 230°C.
Viscosity	: Not applicable.
Explosive properties	: Not applicable.
Oxidising properties	: None.

9.2. OTHER INFORMATION

Maximum Safe Heating Temperature	: 230°C.
Recommended Application Temperature	: 170 – 220°C (depends on grade)

PLEASE NOTE THAT THESE PROPERTIES DO NOT CONSTITUTE A SPECIFICATION

10. STABILITY AND REACTIVITY

10.1. REACTIVITY
Material is stable under normal storage conditions.

10.2. CHEMICAL STABILITY
No decomposition if used as directed.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS
Hazardous polymerization will not occur.

10.4. CONDITIONS TO AVOID
Avoid exposure to temperatures exceeding recommended processing conditions.

10.5. INCOMPATIBLE MATERIALS
Strong oxidisers

10.6. HAZARDOUS DECOMPOSITION PRODUCTS
Material does not decompose at ambient temperatures. In case of fire hazardous decomposition products may be produced such as:

Carbon Monoxide
Carbon Dioxide (CO2)
Flammable hydrocarbons

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxic Dose 1 - LD 50 5000 mg/kg (oral rat)

INHALATION
Elevated temperatures or mechanical action may form vapours, mists or fumes which may be irritating to the eyes and respiratory tract.

INGESTION
Ingestion of powder may cause nausea, vomiting and diarrhoea.

SKIN CONTACT
Contact with hot material will cause burns.

EYE CONTACT
Dust may cause transient irritation

OTHER INFORMATION
For the product itself:
Dust may be irritating to the eyes and respiratory tract. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

12. ECOLOGICAL INFORMATION

The environmental impact of this product has not been fully investigated.

12.1. TOXICITY
MATERIAL – Not expected to be harmful to acquatic organisms.
MATERIAL – Not expected to be harmful to terrestrial organisms.

12.2. PERSISTENCE AND DEGRADABILITY
Biodegradation:
Material -- Expected to be persistent.

12.3. BIOACCUMULATIVE POTENTIAL
Material -- Potential to bioaccumulate is low.

12.4. MOBILITY IN SOIL
Material -- Low solubility and floats and is expected to migrate from water to the land.
Expected to partition to sediment and wastewater solids.

12.5. PERSISTENCE, BIOACCUMULATION AND TOXICITY FOR SUBSTANCE(S)
This product is not, or does not contain, a substance that is a PBT or a vPvB.

12.6. OTHER ADVERSE EFFECTS
No adverse effects are expected.

13. DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

13.1. WASTE TREATMENT METHODS
Suitable routes of disposal are supervised incineration, preferentially with energy recovery, or appropriate recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 08 02 99 MFSU Other coatings wastes not otherwise specified
08 04 99 MFSU Adhesives and Sealants wastes not otherwise specified
17-02-03 Construction and Demolition Waste (Plastic)

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

PACKAGING
METHODS OF DISPOSAL : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SPECIAL PRECAUTIONS :
This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Do NOT pour hot material down drains.

14. TRANSPORT INFORMATION

General Does - not contain any substances classified as dangerous for transport.

Customs Classification Number: 39 111 00 0

14.1. UN number
UN No. (ADR/RID/ADN) Not applicable

14.2 UN Proper shipping name Not applicable

14.3 Transport hazard class(es)

ADR/RID/ADN Class Not classified for transportation.

14.4. Packing group Not applicable

14.5. Environmental hazards Not applicable

14.6. Special precautions for user Not applicable

15.REGULTAORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Applicable EU Directives and Regulations:
1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]

1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]
Refer to the relevant EU/national regulation for details of any actions or restrictions required by the above Regulation(s)/Directive(s).

15.2. CHEMICAL SAFETY ASSESSMENT

REACH Information: A Chemical Safety Assessment has not been carried out for any of the substances present in the material.

16. OTHER INFORMATION

Guidance Notes: *Preventing Dermatitis at Work INDG 233*
Medical aspects of occupational skin disease(MS 24)
Workplace Exposure Limits (EH 40)
The above publications are available from HMSO and HSE sources.
www.hse.gov.uk
www.opsi.gov.uk

NOTICE TO THE READER
This information is provided in accordance with the current status of our knowledge and experience. The Safety Data Sheet describes products with a view to relevant safety requirements. This information does not constitute a warranty of properties, features or qualities.