



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

1.1 PRODUCT IDENTIFIER:

Product Names: **KESTREL POLYMER MODIFIED ROAD STUD GROUT**

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

Identified uses: Polymer Modified Stud Grout: A hot applied bitumen based adhesive for installation of reflective road studs.

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 classified.

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
Not regulated according to EU Directive **67/548/EEC or 1999/45/EC**

2.3 OTHER HAZARDS

The mixture does not contain substances classified under REACH Article 57 as "Substances of Very High Concern" (SVHC) $\geq 0.1\%$
Not classified as PBT or vPvB.

HEALTH HAZARDS

Exposure to high fume concentrations from heated asphalt may cause eye and respiratory tract irritation. Low order of toxicity. Hydrogen sulphide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulphide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odour does not provide a reliable indicator of the presence of hazardous levels in the atmosphere.

3. Composition / Information on Ingredients

3.1 **SUBSTANCES:** Not Applicable. This material is regulated as a mixture.

3.2 MIXTURES

This material is defined as a mixture.

No Hazardous Substance(s) required for disclosure



4. First-aid measures

4.1 DESCRIPTION OF FIRST AID MEASURES

Inhalation: Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

Ingestion: Seek medical advice and show product label. Ensure airway is not blocked and seek medical advice.

Skin Contact: Wash contact areas with soap and water. If burned by contact with hot material, molten material adhering to skin should be cooled as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn.

Eye Contact: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Ingestion: First aid is normally not required. Seek medical attention if discomfort occurs.

4.2. Most important symptoms and effects, both acute and delayed

Eye pain, redness, tearing, swelling of eyelids, itching.

4.3. Indication of any immediate medical attention and special treatment needed

The need to have special means for providing specific and immediate medical treatment available in the workplace is not expected.

5. Fire-fighting measures

5.1. EXTINGUISHING MEDIA:

Not classified as flammable but will support combustion. Extinguish with foam, dry powder, carbon dioxide (CO₂) or a dry, non-combustible material such as dry sand or earth to extinguish flames. .

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Hazardous Combustion Products:

Hydrogen Sulphide, Smoke, Fumes, Incomplete combustion products, Oxides of Carbon, Sulphur Oxides,

5.3. ADVICE FOR FIREFIGHTERS

Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

FLAMMABILITY PROPERTIES

Flash Point [Method]: >230C (446F) [EN/ISO 2592]

Flammable Limits (Approximate volume % in air): LEL: 0.5 UEL: 5.0 [Estimated]

Autoignition Temperature: No data available

6. ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For non-emergency personnel: Wear protective clothing as described in Section 8 of this safety data sheet. Contact with hot molten material will cause severe burns.

6.2. ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Land Spill: Stop leak if you can do so without risk. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

WATER SPILL: Stop leak if you can do so without risk. Material will sink. Consult an expert.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

6.4. REFERENCE TO OTHER SECTIONS

See Sections 8 and 13.

7. HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Avoid vapour from heated materials to prevent exposure to potentially toxic/irritating fumes. Hydrogen sulphide (H₂S) may be given off when this material is heated. Do not depend on sense of smell for warning. When heating to normal handling temperatures, avoid local overheating. Use only with adequate ventilation. Prevent small spills and leakage to avoid slip hazard.

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)

The identified end-use is detailed in Section 1.2. No industrial or sector specific guidance available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Exposure Limit Values:

Exposure limits/standards (Note: Exposure limits are not additive):

| Substance Name | Form | Limit/Standard | | | Note | Source | Year |
|----------------------------------|---------------------|----------------|-----------------------|--------|------|---------|------|
| Asphalt fumes | Fume. | STEL | 10 mg/m ³ | | | UK EH40 | 2007 |
| Asphalt fumes | Fume. | TWA | 5 mg/m ³ | | | UK EH40 | 2007 |
| Asphalt fumes [benzene solubles] | Inhalable fraction. | TWA | 0.5 mg/m ³ | | | ACGIH | 2009 |
| Hydrogen Sulphide | | STEL | 14 mg/m ³ | 10 ppm | | UK EH40 | 2007 |
| Hydrogen Sulphide | | TWA | 7 mg/m ³ | 5 ppm | | UK EH40 | 2007 |
| Hydrogen Sulphide | | STEL | 15 ppm | | | ACGIH | 2009 |
| Hydrogen Sulphide | | TWA | 10 ppm | | | ACGIH | 2009 |

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

8.2. EXPOSURE CONTROLS

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PROTECTIVE EQUIPMENT



PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: Positive-pressure, air-supplied respirator in areas where H₂S vapours may accumulate is recommended. European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

Eye Protection: If contact with material may occur, safety glasses and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

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.

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 |
| Colour | : Black |
| Odour | : Petroeleum / slight. |
| Melting point range | : 75 - 100°C. |
| Flash point (Closed Cup) | : > 240°C. |
| Relative density | : 1.7 – 1.9 g/cm ³ |
| Solubility(ies) | : Insoluble in water. |
| Decomposition temperature | : > 250°C. |

9.2. OTHER INFORMATION

The product is solid at ambient temperature but turns to a viscous dark liquid below application temperature.

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. Avoid contact of hot molten product with water.

10.5. INCOMPATIBLE MATERIALS

Halogens, Strong Acids, Alkalies, 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 (CO)
Carbon Dioxide (CO₂)
Hydrogen Sulphide (H₂S)
Flammable hydrocarbons

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

No information available.

11.1.1. Substances

No toxicological data available for the substances.

11.1.2 Mixture

Contains at least one sensitising substance. May cause an allergic reaction.

During heating small quantities of Hydrogen Sulphide (H₂S) may be liberated which might exceed exposure limits. Boiler and storage tank vapour spaces should be considered hazardous.

CHRONIC/OTHER EFFECTS

For the product itself:

Asphalt: May contain low levels of polycyclic aromatic compounds (PACs), some of which are suspected of causing cancer under conditions of poor industrial hygiene and prolonged repeated contact. These PACs may also be inhaled. Inhalation studies at high concentrations of fumes resulted in bronchitis, pneumonitis, fibrosis and cell damage. Avoid contact with the asphalt and inhalation of vapour or aerosol from it.

Contains:

HYDROGEN SULPHIDE: Chronic health effects due to repeated exposures to low levels of H₂S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H₂S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage. **EMISSIONS (generated from heated bitumen product):** According to The International Agency for Research on Cancer (IARC), certain specific occupational uses of bitumen products may result in carcinogenic hazards, as follows: (a) Occupational exposures to oxidized bitumens and their emissions during roofing are 'probably carcinogenic to humans' (Group 2A), (b) occupational exposures to hard bitumens and their emissions during mastic asphalt work are 'possibly carcinogenic to humans' (Group 2B), and (c) occupational exposures to straight-run bitumens and their emissions during road paving are 'possibly carcinogenic to humans' (Group 2B). These levels of hazard identified by IARC are associated with the specified occupational uses which require heating. Oxidized asphalts have been defined as having a Penetration Index (PI) of > 2.0.

Additional information is available by request.

12. ECOLOGICAL INFORMATION

The environmental impact of this product has not been fully investigated.
The information given is based on data available for the material, the components of the material, and similar materials.

12.1. TOXICITY

Material -- Not expected to be harmful to aquatic organisms.

12.2. PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be persistent.

12.3. BIOACCUMULATIVE POTENTIAL

Material -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

12.4. MOBILITY IN SOIL

Majority of components -- Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids.

Material -- Low potential to migrate through soil.

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.

Revision Date:
20th January 2017



REGULATORY DISPOSAL INFORMATION

European Waste Code: 05 01 17 Bitumen
05 01 99 Wasters not otherwise specified.

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

Transport product in compliance with the provisions of the ADR for road, RID for Rail, IMDG for sea and ICAO/IATA for air transport (ADR 2013 – IMDG2012 – ICAO/IATA 2014).
Not classified as hazardous for carriage unless heated above 100°C when the following information will apply.

LAND (ADR/RID)

- 14.1. UN Number: 3257
- 14.2. UN Proper Shipping Name (Technical Name): ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen)
- 14.3. Transport Hazard Class(es): 9
- 14.4. Packing Group: III
- 14.5. Environmental Hazards: None
- 14.6. Special Precautions for users: Classification Code: M9 Label(s) / Mark(s): 9 (ET) Hazard ID Number: 99 Hazchem EAC: 2Y

INLAND WATERWAYS (ADNR/ADN)

- 14.1. UN (or ID) Number: 3257
- 14.2. UN Proper Shipping Name (Technical Name): ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen)
- 14.3. Transport Hazard Class(es): 9
- 14.4. Packing Group: III
- 14.5. Environmental Hazards: None
- 14.6. Special Precautions for users: Hazard ID Number: 99 Label(s) / Mark(s): 9 (ET)

SEA (IMDG)

- 14.1. UN Number: 3257
- 14.2. UN Proper Shipping Name (Technical Name): ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen)
- 14.3. Transport Hazard Class(es): 9
- 14.4. Packing Group: III
- 14.6. Special Precautions for users: Label(s): 9 (ET) EMS Number: F-A,S-P
Transport Document Name: UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen), 9, PG III

SEA (MARPOL 73/78 Convention - Annex II):

- 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not classified according to Annex II

AIR (IATA)

- 14.1. UN Number:

14.2. UN Proper Shipping Name (Technical Name): NOT STANDARD PRACTICE

14.3. Transport Hazard Class(es):

14.4. Packing Group: (N/A)

14.5. Environmental Hazards: None

14.6. Special Precautions for users: Label(s) / Mark(s): Transport Document Name: NOT STANDARD PRACTICE,

[Footnote: Material is not regulated when shipped at temperatures below 212 F and its flash point. Product classified as UN 3257 is forbidden by air transport but the product may be transported by air if its temperature is less than 100 deg. C (212 deg. F). If the product is offered for transport at less than 100 deg. C (212 deg. F), the transport classification is Not Regulated.]

15. REGULATORY 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 been carried out for one or more of the substances present in the material.

16. OTHER INFORMATION

REFERENCES: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym Full text

N/A Not applicable

N/D Not determined

NE Not established

VOC Volatile Organic Compound

AICS Australian Inventory of Chemical Substances

AIHA WEEL American Industrial Hygiene Association Workplace Environmental Exposure Limits

ASTM ASTM International, originally known as the American Society for Testing and Materials (ASTM)

DSL Domestic Substance List (Canada)

EINECS European Inventory of Existing Commercial Substances

ELINCS European List of Notified Chemical Substances

ENCS Existing and new Chemical Substances (Japanese inventory)

IECSC Inventory of Existing Chemical Substances in China

KECI Korean Existing Chemicals Inventory

NDSL Non-Domestic Substances List (Canada)

NZIoC New Zealand Inventory of Chemicals

PICCS Philippine Inventory of Chemicals and Chemical Substances

TLV Threshold Limit Value (American Conference of Governmental Industrial Hygienists)

TSCA Toxic Substances Control Act (U.S. inventory)

UVCB Substances of Unknown or Variable composition, Complex reaction products or Biological materials

LC Lethal Concentration

LD Lethal Dose

LL Lethal Loading

Revision Date:
20th January 2017



kestrel
THERMOPLASTICS LTD

EC Effective Concentration
EL Effective Loading
NOEC No Observable Effect Concentration
NOELR No Observable Effect Loading Rate

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

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