



SAFETY DATA SHEET

Tarmac Hi-Flow Commercial

According to Regulation (EC) No 1907/2006, Annex II, as amended.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Tarmac Hi-Flow Commercial

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Floor leveller.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier Tarmac Building Products Ltd
i10 Interchange
Railway Drive
Wolverhampton
WV1 1LH
Telephone: 03444 63 64 65
packedproducts@tarmacbp.co.uk

1.4. Emergency telephone number

Emergency telephone 03444 63 00 46 (Office Hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Eye Irrit. 2 - H319 Skin Sens. 1 - H317

Environmental hazards Not Classified

2.2. Label elements

Pictogram



Signal word Warning

Hazard statements H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Tarmac Hi-Flow Commercial

Precautionary statements	<p>P102 Keep out of reach of children.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
---------------------------------	--

Contains Cement, portland, chemicals

Supplementary precautionary statements	<p>P261 Avoid breathing dust.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p>
---	--

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Calcium carbonate	25 - <50%
CAS number: 471-34-1 EC number: 207-439-9 Substance with National workplace exposure limits.	
Classification	
Not Classified	
Cement, alumina, chemicals	10 - <25%
CAS number: 65997-16-2 EC number: 266-045-5	
Classification	
Eye Irrit. 2 - H319	
Plaster of Paris	5 - <10%
CAS number: 26499-65-0	
Classification	
Not Classified	
Cement, portland, chemicals	2.5 - <5%
CAS number: 65997-15-1 EC number: 266-043-4	
Classification	
Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317 STOT SE 3 - H335	

Tarmac Hi-Flow Commercial

Crystalline Silica	0.25 - <0.5%	
CAS number: 1317-95-9		
Classification STOT RE 1 - H372		
Calcium dihydroxide	0.025 - <0.25%	
CAS number: 1305-62-0	EC number: 215-137-3	REACH registration number: 01-2119475151-45-XXXX
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335		
Silicon dioxide	<0.025%	
CAS number: 7631-86-9	EC number: 231-545-4	
Substance with National workplace exposure limits.		
Classification Not Classified		

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Ingestion	Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Keep affected person under observation. Get medical attention.
Skin contact	Brush off loose particles from skin. It is important to remove the substance from the skin immediately. In the event of any sensitisation symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognised skin cleansing agent. Get medical attention if symptoms are severe or persist after washing.
Eye contact	Rinse immediately with plenty of water. Do not rub eye. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
----------------------------	---

Tarmac Hi-Flow Commercial

Inhalation	A single exposure may cause the following adverse effects: Irritation of nose, throat and airway. Difficulty in breathing. Coughing.
Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.
Eye contact	Causes serious eye irritation. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

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

Notes for the doctor Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards None known.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Avoid inhalation of dust and vapours. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Tarmac Hi-Flow Commercial

Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Neutralise with acid. Caution. May generate heat. Following dilution and neutralisation, discharge to the sewer with plenty of water may be permitted. The requirements of the local water authority must be complied with if contaminated water is flushed directly to the sewer. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Keep out of the reach of children. Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. Avoid handling which leads to dust formation. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store locked up. Store away from the following materials: Acids. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

Storage class

Acid-reactive storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust
 Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

Calcium carbonate

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust
 Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

Plaster of Paris

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust
 Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

Cement, portland, chemicals

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust
 Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

Crystalline Silica

Tarmac Hi-Flow Commercial

Long-term exposure limit (8-hour TWA): WEL 0.1 mg/m³ respirable dust

Calcium dihydroxide

Long-term exposure limit (8-hour TWA): WEL 5 mg/m³

Silicon dioxide

Long-term exposure limit (8-hour TWA): WEL 6 mg/m³ inhalable dust

Long-term exposure limit (8-hour TWA): WEL 2.4 mg/m³ respirable dust

WEL = Workplace Exposure Limit

Lithium carbonate (CAS: 554-13-2)

DNEL

Workers - Inhalation; Long term systemic effects: 10 mg/m³
 Workers - Inhalation; Short term systemic effects: 30 mg/m³
 Workers - Dermal; Long term systemic effects: 64.3 mg/kg/day
 Workers - Dermal; Short term systemic effects: 100 mg/kg/day
 General population - Inhalation; Long term systemic effects: 9.64 mg/m³
 General population - Inhalation; Short term systemic effects: 28.92 mg/m³
 General population - Dermal; Long term systemic effects: 64.3 mg/kg/day
 General population - Dermal; Short term systemic effects: 50 mg/kg/day
 General population - Oral; Long term systemic effects: 6.43 mg/kg/day
 General population - Oral; Short term systemic effects: 19.23 mg/kg/day

PNEC

- Fresh water; 9 mg/l
 - Marine water; 0.9 mg/l
 - Intermittent release; 0.3 mg/l
 - STP; 122.2 mg/l
 - Sediment (Freshwater); 35.2 mg/kg
 - Sediment (Marinewater); 3.52 mg/kg
 - Soil; 1.76 mg/kg

(+)-Tartaric acid (CAS: 87-69-4)

DNEL

Workers - Inhalation; Long term systemic effects: 5.2 mg/m³
 Workers - Dermal; Long term systemic effects: 2.9 mg/kg/day
 General population - Inhalation; Long term systemic effects: 1.3 mg/m³
 General population - Dermal; Long term systemic effects: 1.5 mg/kg/day
 General population - Oral; Long term systemic effects: 8.1 mg/kg/day

PNEC

- Fresh water; 0.312 mg/l
 - Marine water; 0.312 mg/l
 - Intermittent release; 0.514 mg/l
 - STP; 10 mg/l
 - Sediment (Freshwater); 1.141 mg/kg/day
 - Sediment (Marinewater); 1.141 mg/kg/day
 - Soil; 0.045 mg/kg/day

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation.

Tarmac Hi-Flow Commercial

Eye/face protection	Avoid contact with eyes. Large Spillages: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.
Hand protection	Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	May cause skin sensitisation or allergic reactions in sensitive individuals. Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.
Respiratory protection	No specific recommendations. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.
Environmental exposure controls	Keep container tightly sealed when not in use. Avoid release to the environment.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Sand. Cement. Powder.
Odour	Slight.
Odour threshold	Not determined.
pH	≥ 11.5
Melting point	~ 1250°C
Initial boiling point and range	Not determined.
Flash point	Not determined.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	~ 3.0
Bulk density	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not considered to be explosive.

Tarmac Hi-Flow Commercial

Oxidising properties The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information

Other information No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid Acid anhydrides. Acids. Phenols, cresols.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Eye Irrit. 2 - H319 Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Tarmac Hi-Flow Commercial

Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	Contains a substance which may be potentially carcinogenic. IARC Group 3 Not classifiable as to its carcinogenicity to humans.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Not relevant. Solid.
<u>General information</u>	
General information	Dust may irritate the eyes and the respiratory system. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	A single exposure may cause the following adverse effects: Irritation of nose, throat and airway. Difficulty in breathing. Coughing.
Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.
Eye contact	Causes serious eye irritation. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Route of entry	Ingestion Inhalation Skin and/or eye contact
Target organs	Respiratory system, lungs
Medical considerations	Skin disorders and allergies.

Toxicological information on ingredients.

Calcium carbonate

Acute toxicity - oral

Notes (oral LD₅₀) > 2000 mg/kg, Rat REACH dossier information.

Acute toxicity - dermal

Notes (dermal LD₅₀) > 2000 mg/kg, Rat REACH dossier information.

Skin corrosion/irritation

Animal data Dose: 0.5 g, 4 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). REACH dossier information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 0.1 ml (61 mg), 72 hours, Rabbit REACH dossier information. Not irritating.

Skin sensitisation

Tarmac Hi-Flow Commercial

Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Not sensitising. REACH dossier information.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Chromosome aberration: Negative. REACH dossier information.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening - NOEL 1000 mg/kg/day, Oral, Rat P REACH dossier information. No evidence of reproductive toxicity in animal studies.
Reproductive toxicity - development	Developmental toxicity: - NOAEC: > 1.25 %, Oral, Rat REACH dossier information.

Cement, alumina, chemicals

<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	LD ₅₀ >2000 mg/kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	LD ₅₀ >2000 mg/kg, Dermal, Rat REACH dossier information. Based on available data the classification criteria are not met.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	LC ₅₀ 7.6 mg/l, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.
<u>Skin corrosion/irritation</u>	
Animal data	Dose: 0.5 g, 4 hours, Rabbit Primary dermal irritation index: 0 REACH dossier information. Based on available data the classification criteria are not met.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Dose: 62 mg, 24 hours, Rabbit REACH dossier information. Causes serious eye irritation.
<u>Skin sensitisation</u>	
Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
<u>Reproductive toxicity</u>	
Reproductive toxicity - development	Embryotoxicity:, Teratogenicity: - NOAEL: 266 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.
<u>Aspiration hazard</u>	
Aspiration hazard	Not relevant. Solid.

Plaster of Paris

Toxicological effects	Not regarded as a health hazard under current legislation.
------------------------------	--

Tarmac Hi-Flow Commercial

Cement, portland, chemicals

Skin corrosion/irritation

Animal data Skin Irrit. 2 - H315 Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Eye Dam. 1 - H318 Causes serious eye damage.

Skin sensitisation

Skin sensitisation Skin Sens. 1 - H317 May cause an allergic skin reaction.

Specific target organ toxicity - single exposure

STOT - single exposure STOT SE 3 - H335 May cause respiratory irritation.

Crystalline Silica

Specific target organ toxicity - repeated exposure

STOT - repeated exposure STOT RE 1 - H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

Calcium dihydroxide

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ : >2000 mg/kg, Oral, Rat REACH dossier information.

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,500.0

Species Rabbit

Notes (dermal LD₅₀) REACH dossier information.

ATE dermal (mg/kg) 2,500.0

Skin corrosion/irritation

Animal data Dose: 0.5 g, 4 hours, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: Very slight oedema - barely perceptible (1). REACH dossier information. Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Negative. REACH dossier information.

Carcinogenicity

Carcinogenicity NOAEL 21500 mg/kg/day, Oral, Rat REACH dossier information. Read across data. No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Reproductive toxicity - development Developmental toxicity: - NOAEL: ≥ 440 mg/kg/day, Oral, Mouse REACH dossier information. Read across data. No evidence of reproductive toxicity in animal studies.

Tarmac Hi-Flow Commercial

Specific target organ toxicity - single exposure

STOT - single exposure STOT SE 3 - H335 May cause respiratory irritation.

Target organs Respiratory system, lungs

Silicon dioxide

Toxicological effects Not regarded as a health hazard under current legislation.

Acute toxicity - oral

Notes (oral LD₅₀) > 5000 mg/kg, Rat REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) > 2000 mg/kg, Rabbit, REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Dose: 0.5 g, 4 hours, Rabbit Primary dermal irritation index: 0 REACH dossier information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Dose: 100 mg, 24 hours, Rabbit REACH dossier information. Not irritating.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity NOAEL 5 %, Oral, Rat REACH dossier information.

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - development Maternal toxicity: - NOAEL: 1350 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOEL < 4500 mg/kg/day, Oral, Rat REACH dossier information. Not classified as a specific target organ toxicant after repeated exposure.

Tarmac Hi-Flow Commercial

Aspiration hazard

Aspiration hazard Not relevant.

SECTION 12: Ecological Information

Ecotoxicity The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met.

Ecological information on ingredients.

Calcium carbonate

Toxicity Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.

Acute toxicity - fish LC₅₀, 96 hours: > 100 %, Onchorhynchus mykiss (Rainbow trout)
NOEC, 96 hours: > 100 %, Onchorhynchus mykiss (Rainbow trout)
REACH dossier information.

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 100 %, Daphnia magna
NOEC, 48 hours: 100 %, Daphnia magna
REACH dossier information.

Acute toxicity - aquatic plants EC₁₀, 72 hours: > 14 mg/l, Desmodesmus subspicatus
EC₂₀, 72 hours: > 14 mg/l, Desmodesmus subspicatus
EC₅₀, 72 hours: > 14 mg/l, Desmodesmus subspicatus
NOEC, 72 hours: 14 mg/l, Desmodesmus subspicatus
REACH dossier information.

Acute toxicity - microorganisms EC₅₀, 3 hours: > 1000 mg/l, Activated sludge
NOEC, 3 hours: 1000 mg/l, Activated sludge
REACH dossier information.

Cement, alumina, chemicals

Toxicity Based on available data the classification criteria are not met.

Acute toxicity - fish LC₅₀, 96 hours: >100 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 5.4 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 3.6 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms EC₅₀, 3 hours: >1000 mg/l, Activated sludge

Plaster of Paris

Toxicity No negative effects on the aquatic environment are known.

Cement, portland, chemicals

Tarmac Hi-Flow Commercial

Toxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Crystalline Silica

Toxicity No negative effects on the aquatic environment are known.

Calcium dihydroxide

Acute toxicity - fish LC₅₀, 96 hours: 457 mg/l, *Gasterosteus aculeatus* (Three-spined stickleback)
REACH dossier information.

Acute toxicity - aquatic invertebrates LC₅₀, 96 hours: 158 mg/l, *Crangon septemspinosa*
REACH dossier information.

Acute toxicity - aquatic plants EC₁₀, 72 hours: 79.22 mg/l, *Pseudokirchneriella subcapitata*
EC₂₀, 72 hours: 106.02 mg/l, *Pseudokirchneriella subcapitata*
EC₅₀, 72 hours: 184.57 mg/l, *Pseudokirchneriella subcapitata*
LOEC, 72 hours: 80 mg/l, *Pseudokirchneriella subcapitata*
NOEC, 72 hours: 48 mg/l, *Pseudokirchneriella subcapitata*
REACH dossier information.

Acute toxicity - microorganisms EC₂₀, 3 hours: 229.2 mg/l, Activated sludge
EC₅₀, 3 hours: 300.4 mg/l, Activated sludge
REACH dossier information.

Acute toxicity - terrestrial NOEC, 4 weeks: 2000 mg/kg, *Eisenia Fetida* (Earthworm)
REACH dossier information.

Chronic toxicity - aquatic invertebrates LC₅₀, 14 days: 53.1 mg/l, *Crangon septemspinosa*
NOEC, 14 days: 32 mg/l, *Crangon septemspinosa*
REACH dossier information.

Toxicity to soil NOEC, 96 days: 4000 mg/kg, Soil
EC₅₀, 28 days: > 12000 mg/kg, Soil
REACH dossier information.

Toxicity to terrestrial plants EC₅₀, 21 days: 5640 mg/kg, *Allium porrum*
REACH dossier information.

Silicon dioxide

Toxicity Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.

Acute toxicity - fish LL₀, 96 hours: 10000 mg/l, *Brachydanio rerio* (Zebra Fish)
REACH dossier information.

Acute toxicity - aquatic invertebrates EL₅₀, 24 hours: > 1000 mg/l, *Daphnia magna*
REACH dossier information.

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Ecological information on ingredients.

Calcium carbonate

Tarmac Hi-Flow Commercial

Persistence and degradability The product contains only inorganic substances which are not biodegradable.

Cement, alumina, chemicals

Persistence and degradability The product contains inorganic substances which are not biodegradable.

Plaster of Paris

Persistence and degradability The product contains inorganic substances which are not biodegradable.

Crystalline Silica

Persistence and degradability The product contains only inorganic substances which are not biodegradable.

Silicon dioxide

Persistence and degradability Substance is inorganic.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

Ecological information on ingredients.

Calcium carbonate

Bioaccumulative potential No data available on bioaccumulation.

Cement, alumina, chemicals

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Technically not feasible.

Plaster of Paris

Bioaccumulative potential No data available on bioaccumulation.

Crystalline Silica

Bioaccumulative potential No data available on bioaccumulation.

Calcium dihydroxide

Bioaccumulative potential The product is not bioaccumulating.

Silicon dioxide

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Tarmac Hi-Flow Commercial

Mobility No data available.

Ecological information on ingredients.

Calcium carbonate

Mobility The product is soluble in water.

Cement, alumina, chemicals

Mobility The product is soluble in water.

Plaster of Paris

Mobility The product is insoluble in water.

Cement, portland, chemicals

Mobility No information available.

Crystalline Silica

Mobility No data available.

Calcium dihydroxide

Mobility The product is soluble in water.

Surface tension 72 mN/m @ 20°C REACH dossier information.

Silicon dioxide

Mobility Slightly soluble in water.

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

Calcium carbonate

Results of PBT and vPvB assessment Substance is inorganic. Not relevant.

Cement, alumina, chemicals

Results of PBT and vPvB assessment Not relevant. Substance is inorganic.

Plaster of Paris

Results of PBT and vPvB assessment Not relevant. Substance is inorganic.

Crystalline Silica

Results of PBT and vPvB assessment Substance is inorganic. Not relevant.

Tarmac Hi-Flow Commercial

Calcium dihydroxide

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Silicon dioxide

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

SECTION 15: Regulatory information

Tarmac Hi-Flow Commercial

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Restrictions (Title VIII Regulation 1907/2006)	Entry number: 47

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008	Eye Irrit. 2 - H319, Skin Sens. 1 - H317: Calculation method.
Training advice	Read and follow manufacturer's recommendations.
Revision comments	Revised formulation.
Revision date	24/08/2016
Revision	4
Supersedes date	01/04/2014
SDS number	4831
Hazard statements in full	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.