SAFETY DATA SHEET

Product: **READY- MIXED CONCRETE**

Issue Date: **November 2010** **Issue no: 5**

1. Identification of Substance/Preparation & Company/ Undertaking

Substance name: READY- MIXED CONCRETE
For further details of the specification refer to the relevant Technical Data Sheet.

Company Details:

Tarmac Limited
Millfields Road
Ettingshall
Wolverhampton WV4 6JP
Telephone: 01902 353522
Fax: 01902 353920
Emergency Telephone: 01902 353522 (during office hours)
Web: www.tarmac.co.uk
Email: SDAdmin@tarmac.co.uk

2. Hazard Identification

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Classified as hazardous (irritant) in accordance with the Chemicals (Hazard Information and Packaging for Supply) Regulations.

Wet concrete can cause serious alkali burns if in direct contact with skin or eyes.

Skin
Alkali burns, a form of skin ulceration, may result from contact with freshly mixed concrete.

Contact with strongly alkaline solutions such as concrete can initially cause nerve damage. Chemical burns may occur without the person being aware because they do not feel any pain.

Contact with wet cement mixes such as wet concrete can cause skin disease. Irritant contact dermatitis is caused by the combination of the wetness, alkalinity and abrasiveness of the ready-mixed concrete.

Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds which may occur in cement.

Eyes
Wet concrete in contact with eyes can cause irritation, inflammation or serious alkali burns, which may lead to blindness.

Ingestion
Swallowing small amounts of fresh concrete is unlikely to cause any significant reaction. Larger amounts can cause irritation of the stomach and intestines.

Inhalation
Wet concrete is not likely to create dust, but respirable dust may be released by the surface treatment and cutting or drilling of hardened concrete. If inhaled in excessive quantities over a prolonged period or extended period, respirable dust can constitute a long term health hazard.

Dusts containing Respirable Crystalline Silica (quartz) present a greater hazard. Long-term exposure to respirable dust can lead to respiratory system damage and disease. Respirable crystalline silica has been associated with the lung disease silicosis.

The quartz content of the product will vary, and is related to the type of aggregate used in the production of the concrete. Advice on the quartz content and other chemical information is available from the supplying unit.

3. Composition / Information on Ingredients

Ready-mixed concrete is a mixture of:

- A cementitious material which may be a cement or a mixture of cement with an addition (eg fly ash, ground granulated blast furnace slag or silica fume).
- Fine and coarse aggregate.
- Water
- Admixtures or additives may be added to modify the properties of the fresh or hardened concrete. Pigments may be added to colour the product.

The proportions of the components will vary according to the required properties of the product.

4. First Aid Measures

Inhalation
If concrete dust is inhaled, remove to fresh air. If breathing difficulties or inflammation are experienced, seek medical attention.

Skin Contact
Where skin contact occurs with wet concrete, either directly or through saturated clothing, the concrete must be washed off immediately with soap and water.

Where concrete enters boots or gloves, or saturates clothing, the article should be removed immediately and washed before further use.

Eye Contact
Immediately and thoroughly irrigate with copious amounts of eye wash solution or clean water. Seek medical attention immediately.

Ingestion
Remove to fresh air. If person is conscious, rinse out mouth and give water to drink. Seek medical advice.

5. Fire Fighting Measures

Concrete is non-flammable and is not combustible.

Suitable Extinguishing Media:
Not applicable.

Unsuitable Extinguishing Media:
Not applicable.

Special Exposure Hazards in Fire:
None.

Special Protective Equipment for Fire Fighters:
None.

6. Accidental Release Measures

Personal Precautions:
Avoid contact with skin and eyes. Wear impervious clothing, gloves and boots. Wear eye protection. See Section 8 for guidance on personal protective equipment. See Section 7 for guidance on handling the product.

Environmental Precautions:
Prevent wet concrete from entering watercourses, ditches and drains.

Methods for Cleaning:
Clean up any spillage before the concrete hardens, using suction or mechanical removal methods.

7. Handling and Storage

Handling
Avoid skin and eye contact. Wet concrete can cause serious alkali burns if in direct contact with skin or eyes. Contact with concrete may also cause skin disease by the combination of the wetness, alkalinity and abrasiveness of the ready-mixed concrete. Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds which may occur in cement.

Do not sit or kneel on wet, un-hardened concrete without wearing the correct personal protective equipment.

Where concrete enters boots or gloves, or saturates clothing, the article should be removed immediately and washed before further use.

Refer to Section 8 for guidance on personal protection.

Storage
Ready-mixed concrete is normally used upon receipt. However, the hardening process of ready-mixed concrete can be delayed by the use of additions and/ or admixtures, extending the period during which the precautions given in this data sheet should continue to be taken and during which time access by unauthorised persons should be prevented.
Refer to the relevant Technical Data Sheet for the specific product.

8. Exposure Controls / Personal Protection

Take Measures to Prevent
a) Direct skin or eye contact with fresh concrete. It is also important not to kneel or sit on the fresh concrete as harmful contact can occur through saturated clothing.
b) Inhalation of dust created by the surface treatment and cutting of hardened concrete which may contain quartz. If inhaled in excessive quantities over an extended period, respirable dust containing quartz can constitute a long term health hazard.

Exposure Control Limits / Source

Total Dust -	W.E.L.	10mg/m^3	8 Hrs	T.W.A.
Respirable Dust -	W.E.L.	4mg/m^3	8 Hrs	T.W.A
Respirable Quartz Crystalline Silica SiO_2	W.E.L.	0.1mg/m^3	8 Hrs	T.W.A

W.E.L. = Workplace Exposure Limit
T.W.A. = Time Weighted Average

Inhalation
Avoid breathing dust.

Eyes, Skin & Hands
S24/25 - Avoid contact with skin and eyes.
S36/ 37/ 39 - Wear suitable protective clothing, gloves and eye / face protection.

Control Measures
Dust caused by cutting or drilling hardened concrete should be controlled by containment, suppression and extraction/ filtration where possible.

Respiratory Protection
Suitable respiratory protection should be used to protect against inhalation of dust, and to ensure exposure is below the Workplace Exposure Levels given at the start of this section.

Hand Protection:
Impermeable gloves should be worn.

Eye Protection:
Goggles should be worn if there is a risk of product entering the eyes (including dust).

Skin Protection:
Overalls and/or long-sleeved jackets and full length trousers. should be worn to protect skin from contact with wet concrete. Outer clothing should be waterproof if contact with wet concrete is likely. Wear impermeable boots to protect feet. Safety wellington boots should be worn If working with wet concrete, with waterproof trousers pulled over them to help prevent concrete entering the boots. If concrete saturates clothing, or enters gloves or boots, remove the articles immediately and wash before wearing again.
In addition to the above, the use of skin barrier cream and aftercare products is also recommended.

9. Physical and Chemical Properties

Appearance:	Grey, granular paste unless pigmented.
Odour:	Slight, earthy odour
pH:	Typically 10-14
Boiling Point / Range:	Not determined
Melting Point / Range:	Not determined
Flash Point:	Not applicable
Auto Flammability:	Not applicable
Flammability:	Not applicable
Explosive Properties:	Not applicable
Oxidising Properties:	Not applicable
Vapour Pressure:	Not applicable
Relative Density:	Above 2.0
Water Solubility:	Dependant on aggregate type
Fat Solubility:	Not determined

10. Stability and Reactivity

Conditions to Avoid: None **Materials to Avoid:** None

Hazardous Decomposition Products: None

11. Toxicological Information

Inhalation:
If inhaled over a prolonged or extended period, respirable dust from drilling or cutting hardened concrete can lead to respiratory system damage and disease. Respirable crystalline silica has been associated with the lung disease silicosis.

Skin Contact:
Skin contact with wet concrete could result in serious alkali burns. Contact with concrete may also cause skin disease by the combination of the wetness, alkalinity and abrasiveness of the ready-mixed concrete. Allergic contact dermatitis may be caused by individual sensitivity to chromium compounds which may occur in cement.

Eye Contact:
Wet concrete in contact with eyes can cause irritation, inflammation or serious alkali burns, which may lead to blindness.

Ingestion:
Ingestion is very unlikely. Ingestion of large amounts may cause irritation of the stomach and intestines. Seek medical attention.

12. Ecological Information

Environmental Assessment:
When used and disposed of as intended, no adverse environmental effects are foreseen, and concrete should not pose a significant ecological hazard.
Prevent wet concrete entering watercourses, ditches & drains.

13. Disposal Consideration

Safe Handling of Residues / Waste Product:
Hardened concrete is classed as non hazardous and 'inert' but should be disposed of in accordance with local and national legal requirements. Hardened concrete can be readily recycled.

14. Transport Information

Special Carriage Requirements:
None – not classified as dangerous for transport.

15. Regulatory Information

Classification: **Irritant**

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Risk Phrases:
R34 - May cause burns.
R38 - Irritating to the skin.
R41 - Risk of serious damage to the eyes.
R43 - May cause sensitisation by skin contact.

Safety Phrases:
S2 – Keep out of reach of children.
S24/25 - Avoid contact with skin and eyes.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/ 37/ 39 - Wear suitable protective clothing, gloves and eye / face protection.

16. Other Information

Training Advice:
Wear and use of PPE.

Recommended Uses and Applications:
Industrial and construction applications.

Further Information:
Head of Safety, Health & Environmental,
Email: SDAdmin@tarmac.co.uk
Telephone: (01902) 353522
Web: www.tarmac.co.uk

Key Data Used to Compile Data Sheet:
HSE Guidance Note EH40/2007
PPE Regulations 1992
COSHH Regulations 2002
Environmental Protection Act 1990
HSE Crystalline Silica EH59

Further copies of this Safety Data Sheet may be obtained from Tarmac Limited.

Prepared in accordance with Annex II of the REACH Regulation (EC) 1907/2006

Legal Notice

The information in this Safety Data Sheet was believed to be correct at the time of issue. However, no warranty is made or implied as to the accuracy or completeness of this information.
If you have purchased this product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and any of the precautions which should be taken.
This Safety Data Sheet does not constitute the user's own assessment of workplace risk. It is the user's sole responsibility to take all necessary precautions when using this product.