

Ready Mix Concrete & Sand and Cement Screed

1. Identification of Substance and Producer Details

Company: Wright Mix
158 Barkby Road
Leicester
LE4 9LF

Product: Ready-Mix Concrete & Sand and Cement Screed – produce using a mixture of natural aggregates, cementitious binder and water.

Revision Date: January 2023

Hazard Information

2. Composition/Information on ingredients

Ready Mix Concrete & Sand and Cement Screed:

Ready Mix Concrete & Sand and cement screed is a mixture of:

- A cementitious binder. This may be Portland Cement / Slag Cement / Pulverised Fuel Ash (PFA) / Microsilica fume / High Alumina cement or combinations of these.
- Fine and/or coarse aggregate
- Water
- Admixtures or additives may be included to improve the properties of the fresh or hardened sand and cement screed. Pigments may have been added to colour the product.

The components vary in concentration according to the required properties of the product.

2.1 Chemical Properties:

The principle constituents of the cementitious binder are calcium silicates, aluminates and sulphates. Small amounts of alkali's, lime and chlorides are also present. Whilst reducing agents are added to comply with requirements for Chromium (VI), their effect decreases over time and hexavalent chromium salts may be present, which can produce a potentially hazardous solution when mixed with water. The natural aggregates contain a combination of various minerals including silica. For more detail on the composition of the product, please contact us using the contact details on page 4.

2.2 Hazardous Ingredients:

a. The lime, calcium silicates and alkalis within the cement are partially soluble and when mixed water produces a potentially hazardous alkaline solution.

b. Hexavalent chromium salts in the cement are soluble and can form a potentially hazardous solution when mixed with water.

c. Organic acid salts within air entraining agents are soluble and when mixed with water, contribute to the alkalinity of the solution.

d. Airborne dust from the natural aggregates in the sand and cement screed may contain respirable silica. Inhalation of respirable dust over prolonged periods can be harmful to health. Where respirable dust contains high quantities of free silica in the form of quartz, there is a risk of developing silicosis.

3. Hazards Identification

3.1 Wet cement screed has a strong alkaline pH. If this comes into contact with the eyes and skin it may cause severe burns and ulceration. The eyes are particularly vulnerable, and the level of damage will increase with contact time. Strong alkaline solutions in contact with the skin tend to damage the nerve endings first, before damaging the skin surface. Therefore, chemical burns can develop without pain being felt at the time.

3.2 Ready mix concrete & sand and cement screed mixes may, until set, cause both irritant and allergic contact dermatitis;

- Irritant contact dermatitis is due to a combination of the wetness, abrasiveness and alkalinity of the material.
- Allergic contact dermatitis is mainly caused by an individual's skin sensitivity to hexavalent chromium salts.

3.3 Ready Mix Concrete & Sand and Cement Screed Dust; Increased levels of dust are generated by mechanical treatment of ready-mix concrete & sand and cement screed containing high silica aggregates, or products containing it. i.e. cutting and surface treatment of hardened ready-mix concrete & sand and cement screed. Inhalation of respirable dust over prolonged periods can be harmful to health. Where respirable dust contains high quantities of free silica in the form of quartz, there is a risk of developing silicosis. The main symptoms of this chronic disease are difficulty in breathing and coughing. Long term prolonged exposure to high levels of respirable crystalline silica can also lead to an increased risk of lung cancer.

Emergency Action

4. First Aid Measures

Wet Sand and Cement Screed:

4.1 Eye Contact:

Immediately irrigate with copious quantities of clean water. Obtain immediate medical attention.

4.2 Skin Contact:

Wash with copious quantities of clean water. Clothing contaminated with wet Ready-mix concrete or sand and cement screed should be removed and washed before re-use. If skin irritation occurs, seek medical attention.

4.3 Ingestion:

Wash out mouth and drink plenty of water. Do not induce vomiting. Seek medical attention if required.

Ready Mix Concrete or Sand and Cement Screed Dust:

4.4 Eye Contact:

Immediately irrigate with copious quantities of clean water. Obtain immediate medical attention.

4.5 Skin Contact:

Wash thoroughly with soap and water. If skin irritation occurs, seek medical attention.

4.6 Ingestion:

Wash out mouth and drink plenty of water. Do not induce vomiting. Seek medical attention if required.

4.7 Inhalation:

Remove affected person to fresh air and seek medical attention if nose or airways become inflamed or irritated.

5. Fire Fighting Measures

Non-Flammable

6. Accidental Release Measures

6.1 Cleaning up:

In the event of spillage, recover the bulk spillage whilst in a plastic state by using either a suction system or mechanical shovel. The material may be slurried by the addition of water to assist removal by vacuum system.

6.2 Environmental Measures:

Prevent from entering drains, sewers and water courses.

Precautions

7. Storage and Handling

7.1 Storage:

Sand and cement screed should be stored whenever possible in the delivery vehicle or container until final placement. Site tipped materials should be stored on a hard-clean surface and kept covered by a plastic cover or damp hessian sheet in order to prevent moisture loss and surface drying.

7.2 Handling:

Wet Ready Mix Concrete & Sand and Cement Screed:

- Avoid skin and eye contact. The risk of serious burns and dermatitis is increased if the material is allowed to rub against the skin if trapped inside contaminated clothing. Do not sit or kneel in the wet material without the correct protective clothing.
- Manual handling of the product should be minimised through the use of mechanical aids with appropriate account taken of the Manual Handling Regulations.

Ready Mix Concrete & Sand and Cement Screed Dust:

- The creation of dust from the cutting or surface treatment of hardened ready-mix concrete or sand and cement screed should be kept to a minimum by the application of working methods and engineering measures to minimise the creation of airborne dust and protect personnel from exposure. Respiratory protection should be used when appropriate.

8. Exposure Controls/Personal Protection

Wear suitable Personal Protection Equipment.

8.1 Workplace Exposure Limits:

From HSE Guidance note EH40:

Substance	WEL	Period
Total Inhalable dust	10mg/m ³	8 Hour TWA
Respirable Dust	4mg/m ³	8 Hour TWA
Respirable Silica	0.1mg/m ³	8 Hour TWA
Chromium (VI) Compounds	0.05 mg/m ³	8 Hour TWA

8.2 Personal Protective Equipment:

- a. Respiratory Protection: Suitable respiratory protection (HSE approved standard) should be worn to protect against dust inhalation.
- b. Hand and Skin Protection Protective overalls and gloves should be worn to prevent skin contact. Any work involving contact of a person's clothing with wet ready-mix concrete or sand and cement screed shall be carried out using suitable waterproof and protective items that prevent skin contact and prevent clothing becoming contaminated.
- c. Eye Protection Eye protection to BS EN 1664-4 should be used to prevent dust and/or ready mix concrete or sand and cement screed entering the eyes.

Product Information

9. Physical and Chemical Properties

Ready mix concrete & Sand and cement screed is a generally odourless mixture of mineral aggregate, hydraulic binder (cement) and water. In its plastic (nonhardened) state the material is produced to have a consistency dependent upon application and end use. The hydraulic binder reacts exothermically with the free water within the mixture to form a crystalline solid that binds the constituent mineral aggregate into a solid form.

All ready-mix concrete & sand and cement screed mixes are:

- Abrasive
- Alkaline (typically pH10-14)

10. Stability and Reactivity

Reacts with water to become alkaline.

Conditions contributing to chemical instability:	NONE
Hazardous decomposition products:	NONE
Special precautions:	NONE

11. Toxicological Information

11.1 Short Term Effects:

a. Eye Contact:

Mild exposure can cause soreness. Gross exposure or untreated mild exposure can cause chemical burns and ulceration to the eyes.

b. Skin Contact:

- Short term exposure may cause chemical burns; may cause acute allergic dermatitis in persons sensitised to chromium compounds.
- Prolonged or repeated contact may cause irritant contact dermatitis; may lead to skin sensitisation to chromium compounds.

c. Ingestion:

- Though unlikely to occur, small amounts of cement/water mixtures are unlikely to cause a significant reaction.
- Large or repeated doses may result in irritation to the gastro intestinal tract.

d. Inhalation:

- Inhalation of cementitious dusts may cause irritation to the mucous membranes.
- Inhalation of mineral dusts over a prolonged period may give rise to a number of respiratory illnesses including chronic bronchitis, pneumoconiosis and silicosis (if silica is present). Long term prolonged exposure to respirable crystalline silica can also lead to an increased risk of developing lung cancer.

12. Ecological Information

12.1 Aquatic Toxicity Rating:

LC50 Not Determined.

When used as an intended no environmental impact is expected. If spillage occurs, prevent entry into drains, sewers and water courses.

12.2 Biological Oxygen Demand: None.

13. Disposal Considerations

Disposal should be in accordance with current local and national legislation.

Additional Information

14. Transport Information

Classification is not required for conveyance.

15. Regulatory Information

15.1 Chemicals (Hazard Information and Packaging for Supply) Regulations:

Classification: Irritant

15.2 Risk/Safety phrases:

Risk Phrases:

- May cause sensitisation by skin contact.
- Risk of serious damage to eyes.
- Contact with wet sand and cement screed may cause irritation, dermatitis or burns.
- Contact between cement powder and bodily fluids (e.g. sweat/eye fluids) may also cause skin and respiratory irritation, dermatitis or burns.
- Contains Chromium (VI) may cause allergic reaction.

Safety Phrases:

- Avoid eye and skin contact by wearing suitable eye protection, clothing and gloves.
- Avoid breathing dust.
- Keep out of reach of children.
- On contact with eyes or skin rinse immediately with plenty of cold water. Seek medical advice after eye contact.

16. Legislation and Other Information

- CONIAC Health Hazard Information Sheet Number 26 (Cement)
- Health and Safety at Work Act 1974
- Consumer Protection Act 1987
- Control of Substances Hazardous to Health (COSHH) 2002
- Control of Substances Hazardous to Health (Amendment) 2004
- Construction (Design and Management) Regulations 1994
- Environmental Protection Act 1990
- HSE Guidance Note EH40 (Workplace Exposure Limits)
- Any authorised manual for First Aid issued by St Johns/St Andrews/Red Cross
- Manual Handling Operations Regulations 1992 (as amended)

Prepared in accordance with UK REACH Competent Authority Information Leaflet No.13 – Safety Data Sheets, January 2009

Guidance References

Available from HMSO, HSE Area Offices or Local Authority Environmental Health Departments:

- EH40: Workplace Exposure Limits
- A Step by Step Guide to COSHH Assessment (HSG[G]97)
- An Introduction to Local Exhaust Ventilation (HSG[G]37)
- Respirable Crystalline Silica (EH59)
- Dust, General Principles of Protection (EH44)
- Respirable Crystalline Silica (EH74/2)
- Respirable Crystalline Silica (EH75)

IMPORTANT NOTES

The purpose of this document is to provide Health, Safety and Environmental guidance of the safe handling, use and disposal of the product(s) described in this datasheet, as supplied by Hogan group companies in the United Kingdom. The Information contained in this datasheet is correct at the date of and applies only in relation to the supply of the material referred to in the despatch docket to which this datasheet is attached and forms part. This datasheet should alert purchasers and/or users to the usual hazards in handling the supplied material when using it within the ordinary range of uses for which the material is normally supplied. If you have purchased or arranged the supply on behalf of a third party who will work with the material supplied, it is your duty to pass on this information to them BEFORE such work commences. For the avoidance of doubt, the datasheet DOES NOT constitute the users own assessment of risk as may be required by other Health and Safety Legislation and nothing herein shall be construed or relied upon as relieving the purchaser, user or intermediate third party from any statutory or other legal duty which may apply to them or from taking care or precautions to protect themselves or others to whom they have a duty of care.

For More Information, Contact **Wright Mix Concrete and Floor Screed**

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