

SECTION 1: IDENTIFICATION

Product Name K-Cure
Other Names: Additive for concrete
Chemical Family: Not Available
Molecular Formula: Not applicable
Recommended Use: Concrete Admixture

Supplier information

New Zealand Decorative Concrete Ltd T/A Permacolour
 42A Egmont Road, Waiwhakaiho, New Plymouth
 0508 444 555 or 06 755 3320
 www.permacolour.co.nz

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Most serious harmful effects: none known

CAS no: 1312-76-1 & 7732-18-5

Other Hazards

None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Potassium Silicate	No Data Available	1312-76-1	N/A
Water	No Data Available	7732-18-5	N/A
Other Special Additives	Trade Secret non hazardous		N/A

SECTION 4: FIRST AID MEASURES

For advice, contact **National Poison Centre (Phone New Zealand: 0800 764 766) or a doctor.**

Swallowed	Wash out mouth thoroughly and drink 1-2 glasses of water in small sips, seek medical advice.
Eye	Open eyes wide, remove any contact lenses and flush immediately with water (preferably using eye wash equipment). Seek medical advice immediately. Continue flushing until medical attention is obtained.
Skin	Wash the skin with water. Remove contaminated clothing.
Inhaled	Seek fresh air, wash out mouth with water blow nose thoroughly. Transport to hospital or doctor.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media-

Alert fire brigade and tell them the location and nature of hazard. Wear PPE in the event of a fire, use fighting procedures suitable for surrounding area. Not combustible, not considered a significant fire risk however containers may burn.

Fire Incompatibility- None known.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8.

Environmental precautions

See section 12.

Methods and material for containment and cleaning up

Minor Spills- Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with substance, by using protective equipment. Contain and absorb apparatus plus protective gloves.

Major Spills- Clear area of personnel and move upwind. Alert Fire Brigade and tell them the location and nature of hazard. Wear breathing apparatus plus protective gloves.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:-

Safe handling: Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well ventilated area. prevent concentration in hollows and slumps. DO NOT allowing clothing wet with material to remain contact on skin.

Other Information: DO NOT store near acids, or oxidising agents. Store in original containers and keep securely sealed. Store in a cool, dry well ventilated area. Store away from incompatible materials and food containers.

Conditions for safe storage, including any incompatibilities:-

Suitable container: DO NOT use aluminium or tin plated containers. Packing as recommended by manufacturer, check all containers are clearly labelled and free from leaks.

Storage Incompatibility: Goods react with aluminium/zinc producing flammable, explosive hydrogen gas. For storage no light alloy , glass receptacles or pipes should be used, on contact hydrogen gas may be evolved. Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. Avoid contact with copper, aluminium and their alloys.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient Data– Not available trade secret.

Exposure Controls

Appropriate engineering controls Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well– designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide the high level of protection.

Personal protection



Eye and face protection

Chemical goggles, full face shield may be required for supplementary but never for primary protection of eyes. Contact lenses may pose as a special hazard.

Skin protection

See hand protection below

Hand/feet protection

Ensure you are wearing protective gloves e.g. PVC.

Wear safety footwear or gumboots e.g. Rubber gumboots, wear trousers or overalls outside of the boots, allowing spills to avoid entering the boots. Personal hygiene is a key element of effective hand care.

Body protection

See other protection below

Other protection

*Overalls

*P.V.C apron

*Barrier cream

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Colourless to hazy viscous liquid, no odour.
Physical state	Liquid
Odour	Not available
Odour threshold	Not available
pH (as supplied)	11-12.5

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Melting point/ Freezing point (°C)	-5 approx.
Initial boiling point and boiling range (°C)	105 approx.
Flash point (°C)	Not applicable
Evaporation rate	Not applicable
Flammability	Not applicable
Upper Explosive Limit (%)	Not applicable
Lower Explosive Limit (%)	Not applicable
Vapour pressure (kPa)	Not applicable
Solubility in water	Miscible
Vapour density (Air=1)	Not applicable
Relative density (Water =1)	1.2-1.7
Partition coefficient n-octanol/ water	Not available
Auto-ignition temperature (°C)	Not applicable
Decomposition temperature	Not applicable
Viscosity (cSt)	Not applicable
Molecular weight (g/mol)	Not applicable
Taste	Not available
Explosive properties	Not available
Oxidising properties	Not available
Surface Tension (dyn/cm or mN/m)	Not available
Volatile Component (%vol)	Not applicable
Gas group	Not available
pH as a solution (1%)	Not available
VOC g/L	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: See Section 7

Chemical Stability: Unstable in the presence of incompatible materials, product is considered stable. Hazardous polymerization will not occur.

Possibility of hazardous reactions: See Section 7

Conditions to avoid: See Section 7

Incompatible materials: See Section 7

Hazardous decomposition products: See Section 5

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Inhaling corrosive bases may irritate the respiratory tract, symptoms consist of coughing, choking, pain and potential damage to the mucous membrane. The body's response to such irritation can cause further lung damage.
Ingested	Consuming the product can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.
Skin Contact	Direct contact with the skin can cause chemical burns. Open cuts or irritated skin should not be exposed to this material. Entry into the blood stream can produce systemic injury with harmful effects. Ensure PPE is worn prior to using material.
Eye	Direct contact with the eyes can cause chemical burns. Vapours or mists can be irritating. If applied to the eyes, this material can cause severe eye damage.
Chronic	Prolonged exposure to the material may result in erosion of teeth, inflammatory and ulcerative changes in the mouth. Accumulation may cause some concern following repeated or prolonged exposure.

SECTION 11: TOXICOLOGICAL INFORMATION

Potassium Silicate Solution 60%	Toxicity	Irritation
	Not Available	Not Available
Potassium Silicate	Toxicity	Irritation
	Dermal (rat) LD50:>5000 mg/kg ^[2]	Not Available
	Oral (rat) LD50:1300-2100 mg/kg ^[2]	
Water	Toxicity	Irritation
	Oral (rat) LD50:>90000 mg/kg ^[2]	Not Available
Potassium Silicate	Asthma-like symptoms may continue for months or even years after exposure to the material. This may be due to a condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis for RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.	
Potassium Silicate and Water	No significant acute toxicological data identified in literature search.	
Acute Toxicity	✓	Carcinogenicity ×
Skin Irritation/Corrosion	✓	Reproductivity ×
Serious Eye Damage/Irritation	✓	STOT– Single Exposure ×
Respiratory or Skin sensitisation	×	STOT– Repeated Exposure ×
Mutagenicity	×	Aspiration Hazard ×

× = Data either not available or does not fill the criteria for classification

✓ = Data available to make classification

SECTION 12: ECOLOGICAL INFORMATION

Toxicity: No effect in the environment.

Persistence/degradability: Readily biodegradable.

Bioaccumulative potential: No bioaccumulation expected.

Mobility in Soil: This product may be mobile in soil but is not miscible in water.

Soluble silicates are completely inorganic and once diluted have no significant environmental impact. DO NOT discharge into sewers or waterways.

Persistence and Degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Water	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
Water	LOW (LogKOW=-1.38)

SECTION 12: ECOLOGICAL INFORMATION**Mobility in soil**

Ingredient	Mobility
Water	LOW (KOC=14.3)

SECTION 13: DISPOSAL CONSIDERATIONS**Disposal Requirements:**

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017.

Packages that have been in direct contact with the substance must only be disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of.

Packages which hazardous content have been appropriately treated and removed may be recycled. The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics of the substance and it is no longer hazardous.

Waste treatment methods: Contact the local authorities

SECTION 14: TRANSPORT INFORMATION

UN-No:	N/A	Packing group:	N/A
UN proper shipping name:	N/A	Environmental Hazards:	N/A
Transport hazard class:	N/A		

Special precautions for users: None

SECTION 15: REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Special provisions: This substance can be managed under the controls specified in the Transfer notice or alternatively it may be managed using the conditions specified in an applicable Group Standard.

HSR Number: HSR004658– Not Available.

SECTION 16: OTHER INFORMATION

The information sourced for the preparation of this document was correct and complete at the time of writing to the best of the writer's knowledge. The document represents the commitment to the company's responsibilities surrounding the supply of this product, undertaken in good faith. This document should be taken as a safety guide for the product and its recommended uses, but is in no way an absolute authority. Please consult the relevant legislation and regulations governing the use and storage of this type of product. For further information, please contact Permacolour by New Zealand Decorative Concrete.