

## Safety Data Sheet

### 1 Chemical Substance and Company Information

#### Product

Product name Concrete Renovation CS-21

Product code A-134

#### Manufacturer information

Company name Aston Incorporated

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#### Recommended application and restrictions on use

For treating concrete or mortar containing cement components in the following manner: water proofing, surface protection, crazing repair, cross-section repair, stopping water leaks, treatment of joint sections, treatment of wood-concrete joints

### 2 Summary of danger and toxicity

#### GHS classification

Skin corrosion / irritation Category 1

Serious damage to the eye / Eye irritant Category 1

Acute toxicity (taken orally) Category 4

\* Items without a description are no subject to classification or cannot be classified

#### Label element



#### Warning statement

Danger and toxicity information

#### Danger

- Serious chemical burns of the skin / damage to the eye
- Harmful when ingested in large quantities

#### Handling precautions

During handling, wear a protective mask, safety glasses, impermeable protective gloves, an apron, and other protective equipment and avoid direct skin contact.

#### First-aid measures

##### In case of inhalation

On inhalation of mist, remove subject to a clean area to rest quietly. Consult a physician.

##### In case of adhesion to skin

Remove contaminated clothing and wash and flush skin with water. Do not let contaminant stay in contact with the skin for a long time.

If there is inflammation and irritation, consult a physician.

##### In case of contact with eye

Irrigate thoroughly with pure water and consult a physician.

##### In case of ingestion

Have subject drink as much fluids (that do not cause poisoning) as possible. Do not induce vomiting.

Consult a physician immediately.

#### Precautions on storage

Seal and store in an area inaccessible to outsiders and children.

Store indoors to prevent freezing in winter.

Always ensure container is capped (closed) during storage. Do not store in a location that will expose the container to direct sunlight or in a location that will exceed 40 °C.

#### Precautions on disposal

Waste fluid and used containers should be disposed by the company appropriately in accordance with applicable laws or by a licensed waste disposal contractor.

### 3 Composition and ingredient information

Classification of single chemical substance and mixture

Mixture

Common name

A sodium silicate-based surface penetrant and a reactive silicate-based surface penetrant

Alias

Concrete renovation, inorganic penetrating applied waterproofing material

Common name	Chemical formula	Content	CAS №
Sodium silicate	$\text{Na}_2\text{O} \cdot \text{SiO}_2$	30 to 40%	1344-09-8
Other (such as hydration activator)	-	Minute amount	-

### 4 First-aid measures

In case of inhalation

On inhalation of mist, remove subject to a clean area to rest quietly. Consult a physician.

In case of adhesion to skin

Remove contaminated clothing and wash and flush skin with water. Do not let contaminant stay in contact with the skin for a long time.

If there is inflammation and irritation, consult a physician.

In case of contact with eye

Irrigate thoroughly with pure water and consult a physician.

In case of ingestion

Have subject drink as much fluids (that do not cause poisoning) as possible. Do not induce vomiting.

Consult a physician immediately.

### 5 Measures in case of fire

Fire extinguishing agents

This product does not burn on its own. Use fire extinguishing agents appropriate to the fire in the surrounding area.

Fire-extinguishing method

In case of a fire in the surrounding area, promptly move the material to a safe place.

In case it is impossible to move the material, spray water to cool the container to prevent the destruction of the container.

Fire water into which the product has dissolved will be alkaline, requiring a neutralization process.

Firefighter protection

Wear a protective mask, safety glasses, impermeable protective gloves, an apron, and other protective gear.

### 6 Measures in case of leakage (accidental release)

Physical precautions, protective gear, and emergency measures

In case of leakage, restrict entry of unauthorized personnel cordoning off the site of the leak.

During cleanup work, wear a protective mask, safety glasses, impermeable protective gloves, an apron, and other protective gear. Avoid direct contact with the skin.

Environmental precautions

Take precautions to prevent the material from being discharged into rivers, sewers, and the soil.

Collection and neutralization

In case of small amounts, wipe away with a rag.

In case of large quantities, collect as much as possible after taking steps to contain the spill (such as with soil).

Neutralize the unrecoverable material with acid.

### 7 Handling and storage precautions

Handling

Technical measures

Wear a protective mask, safety glasses, impermeable protective gloves, an apron, and other protective equipment and avoid direct skin contact.

Local and general ventilation

Perform local ventilation and general ventilation as needed.

Precautions

Use the material in accord with the usual application procedure.

Precautions on safety handling

Implement measures to protect non-work areas from contamination with this material by dripping or scattering.

**Sanitary measures**

After handling work is completed, wash the hands and face. Gargle.

**Storage****Technical measures**

Seal and store in an area inaccessible to outsiders and children.

**Storage conditions**

Always ensure container is capped (closed) during storage. Do not store in a location that will expose the container to direct sunlight or in a location that will exceed 40 °C.

Product may solidify below -2 °C, but will return to normal if heated in this case. However, since the container could be damaged, prevent freezing due to the winter cold by storing it indoors.

**Substances restricted from contact with**

Acids and metals such as aluminum, zinc, tin, and lead

**Packaging material**

Polyethylene, polypropylene, and stainless steel, etc.

**8 Exposure controls and protective measures****Facilities measures**

Prepare a restroom and water for eye irrigation near the work site.

**Exposure limits**

Control concentration Not established <sup>1)</sup>

Allowable concentration Not indicated <sup>2)</sup>

**Protective gear**

Respiratory protection : Protective mask

Hand protection : Impermeable protective gloves

Eye protection : Safety glasses

Skin and bodily protection : Apron

**9 Physical and chemical properties**

Main component	Sodium silicate
Aspects	Colorless, transparent solution
Odor	None
pH value	11.3-12.3
Melting point	-2 °C or less
Boiling point	About 101 °C
Flash point	No ignition
Upper and lower limit for combustion or explosion	Incombustible
Steam pressure	No data
Vapor density	No data
Specific gravity (density)	1.240-1.280 (g/cm <sup>3</sup> )
Percentage of dry solid	31.5 to 33.5% (JSCE-K572-6.2)
Solubility	Dissolves in a water at optional ratios.
Octanol-water partition coefficient	No data
Self-ignition temperature	Incombustible
Decomposition temperature	No data
Evaporation residue	390,000mg / L or more
Viscosity	10.00 mPa·s or less
Dynamic viscosity	7.00 mm <sup>2</sup> /s or less

**10 Stability and reactivity****Stability**

Stable in usual handling conditions. Does not decompose or combust from heat, does not self-combust, and is not reactive to contact with water and air.

If two years or more has passed since manufacture, some precipitation might be verifiable, but physical properties do not change.

**Reactivity**

Will react with calcium and a magnesium and form a gel.

Each salt of an alkaline earth metal acts on a specific silicate and forms a hydrate precipitate.

Solidifies and adheres to glass or tile as a white substance.

Reacts with metals such as aluminum and zinc to form hydrogen.

**Conditions to avoid**

Contact with metals such as aluminum, zinc, tin, and lead

## Dangerous and toxic decomposition products

Reacts with metals such as an aluminum, zinc, tin, and lead to form flammable hydrogen gas.

## 11 Toxicity information

## As a product

Acute toxicity	No data
Skin corrosion and irritation	No data
Serious damage to the eye or eye irritant	Serious pain occurs if the material enters the eye. Since this product has a pH of 11.3 and higher, it was determined to be Category 1.

## As a sodium silicate

Acute toxicity	Taken orally	Rat	LD50 1600mg/kg <sup>3)</sup>
		Mouse	LD50 1100mg/kg <sup>3)</sup>
Skin corrosion and irritation	Skin	Rabbit	250mg/24h Severe <sup>3)</sup>
	Effect on humans is that of skin and membrane irritation.		

## 12 Environmental impact information

Ecotoxicity	No data
Persistence and decomposability	No data
Ecological accumulativity	No data
Mobility in soil	No data
Harmfulness to the ozone layer	No data

## 13 Precautions on disposal

## Residual waste

Entrust treatment to an industrial waste disposal contractor approved by the prefectural governor.  
For small amounts of waste, dilute and dispose with a large amount of water after neutralizing with acid.

## Contaminated containers and packaging

Collect and recycle empty containers.  
For containers that are not recyclable, entrust the disposal of the containers to an industrial waste disposal contractor approved by the prefectural governor.

## 14 Precautions on transport

U.N. number	Not classified.
Name of article (U.N. transportation name)	Not classified.
U.N. classification	Not classified.
Container grade	Not classified.
Marine pollutant	Y class substance
Other precautions	After verifying that contents do not spill out after fastening the cap, package the item in a carton box, indicate top and bottom on the box for transport.

## 15 Applicable laws and regulations

PRTR Law	Not applicable
Industrial Safety and Health Law	Not applicable
Poisonous and Deleterious Substances Control Law	Not applicable
Explosives Control Act	Not applicable
High Pressure Gas Safety Law	Not applicable
Fire Services Act	Not applicable
Ship Safety Law	Not applicable
CSCL Law	Existing chemical substances (1-508)
Marine Pollution Prevention Law	Noxious liquid substance (Y class substance)

## 16 Other information

## Product expiration date

Consume within one year from shipment.

## Leach test for equipment used at water facilities

This product has been tested for leaching following the test methods established by ordinance of the MHLW based on the Waterworks law, and is verified to be in conformance with standards established by an MHLW ordinance for leach standards for equipment used at a waterworks facility based on results of testing based on the MHLW ordinance.

**Analytical results for 31 environmental hormones**

This product was analyzed for 31 environmental hormones specified below and the results were that all items were below the lower limit of determination and were not detected.

Exogenous endocrine-disrupting-chemicals investigation provisional manual

(October, 1998: Environment- Protection-Agency Water Quality Bureau Water Quality Control)

Investigation manuals such as one of items requiring evaluation

(2000: Water Quality Bureau Water Quality Management Division, Environment Protection Agency)

**Cited references**

1) Working environment assessment standards (1988 Ministry of Labor Notification No. 79)

2) Industrial Health Magazine vol.48 (2006)

3) NIOSH: 1983-1983 Registry of Toxic Effects Chemical Substances

**Bibliography**

Chemical substance synthesis information service system (CHRIP)

nite (National Institute of Technology and Evaluation) HP

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**Handling of Contents**

The details in this document is based on data and information available at this time, not all data or literature were investigated, so there may be some items that have been overlooked. Moreover, this information may be revised based on new knowledge or testing.

Since the items mentioned in this document are for normal handling, implement new safety measures applicable to the new application or method of utilization when handling it in a special way.

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