

Created

01/29/2016

Revised

11/09/2018

Safety Data Sheet

1 Chemical Substance and Company Information

Product

Product Name CS-21 Clear

Product Code N-1215

Manufacturer Information

Company name Aston Inc.

Address 14-16 Yasakahonmachi, Kita-ku, Okayama-shi, Okayama, Japan

Responsible department Engineering Department

Telephone number +81-86-255-1511

Emergency contact number +81-86-255-1511

FAX number +81-86-251-3270

E-mail address aston_2@cs21.jp

Recommended Application and Restrictions on Use

Surface protection and repair of cracks and/or cuts on the concrete or mortar that contains cement component.

2 Summary of Danger and Toxicity

GHS Classification

Acute toxicity (Oral) Category 4

Skin corrosivity, Irritation Category 1

Serious eye damage, Eye irritation Category 1

※ Those not listed are what are out of the scope or those that cannot be classified.

Label element



Signal words

Danger

Hazard statement

H302 : Harmful if swallowed

H314 : Causes severe skin burns and eye damage

Precautions for handling

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

First-aid measures

In case of inhalation

When sprayed liquid is inhaled, rest in a clean place and consult a physician.

In case of adhesion to skin

Take off the contaminated clothes 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, consult a physician.

In case of contact with eye

Irrigate thoroughly with clean water and consult a physician.

In case of ingestion

Give the affected person as much non-toxic liquid as possible without forcing to vomit.

Consult a physician immediately.

Precautions for storage

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

Store indoors to prevent freezing in winter.

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

Precautions for disposal

The waste liquid and/or containers after use should be disposed of properly in-house, or have authorized contractor(s) dispose of it.

3 Composition and Ingredient Information

Single chemical / Mixture

Mixture

Common name

A sodium silicate-based surface penetrant, A reactive silicate-based surface penetrant

Alias

Concrete renovation, Surface treatment agent, Surface protective material

Constituent

Common name	Formula	Content	CAS No
Sodium silicate	$\text{Na}_2\text{O} \cdot n\text{SiO}_2$	5-15	1344-09-8
Others (Hydration activator, etc.)	—	Minute amount	—

4 First-aid Measures

In case of inhalation

When sprayed liquid is inhaled, rest in a clean place and consult a physician.

In case of adhesion to skin

Take off the contaminated clothes 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, consult a physician.

In case of contact with eye

Irrigate thoroughly with clean water and consult a physician.

In case of ingestion

Give the affected person as much non-toxic liquid as possible without forcing to vomit.

Immediately consult a physician.

5 Measures in Case of Fire

Fire extinguishing agent

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 product to a safe place.

If this is not possible, sprinkle water and cool the containers to prevent destruction.

As the wastewater mixed with this product is alkaline, it is necessary to neutralize it.

Protection for the fire-fighting personnel

A protective mask, safety glasses, impermeable protective gloves, and an apron must be worn.

6 Measures in Case of Leakage

Precautions for human body, protective equipment, and emergency measures

Prohibit unauthorized persons' access to the leakage site, for example by roping off the area.

When dealing with the leakage, wear a protective mask, safety glasses, impermeable protective gloves, and an apron, and avoid direct contact with the skin.

Precautions for environment

Take precautions to prevent this product from being discharged into rivers, sewage system, and soil.

Collection and neutralization

Small amount of leakage should be wiped off with waste cloth.

If the amount is large, collect as much as possible after taking steps to contain the spill.

In the event this is not possible, neutralize the material with acid.

7 Precautions for Handling and Storage

Handling

Technical measures

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

Local and general ventilation

Implement ventilation as needed.

Precautions

Use this product, following the normal construction process.

Precautions for Safety handling

Take measures, such as curing, to prevent this material from attaching to the unintended parts due to dripping or spattering.

Sanitary measures

After handling work is finished, wash hands and face and gargle.

Storage**Technical measures**

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

Storage conditions

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

Store indoors to prevent freezing in winter.

This product may solidify below 0 °C but, in this case, will return to normal if heated. However, since the container could be damaged, prevent freezing due to the winter cold by storing it indoors.

Incompatible materials

Metals such as aluminum, zinc, tin, and lead, and acids

Containers and Packaging materials

Polyethylene, polypropylene, stainless-steel, etc.

8 Exposure Prevention and Protection Measures

Measures for facilities

Provide water for washing hands and eyes near the handling area.

Exposure limit value

Standard control concentration: Not established¹⁾

Allowable concentration: Not indicated.²⁾

Protective gear

Respiratory protection	: A protective mask
Hand protection	: Impermeable protective gloves
Eye protection	: Safety glasses
Skin and body protection	: An apron

9 Physical and Chemical Properties

Main component	Sodium silicate
Appearance	Colorless and transparent liquid
Odor	None
pH value	11.3 - 12.3
Melting temperature	Below 0°C
Boiling temperature	Approx. 100°C
Flash point	Incombustible
Upper and lower limits of flammable or explosive range	Incombustible
Vapor pressure	No data
Vapor density	No data
Specific gravity (Density)	1.050 - 1.090 (g/cm ³)
Dry solid contents	7.0 - 9.0% (JSCE-K572-6.2)
Solubility	Dissolve in water at an optional rate
Octanol water partition coefficient	No data
Autoignition temperature	Incombustible
Decomposition temperature	No data
Viscosity	1.0 - 5.0 m Pa·s
Kinetic viscosity	0.9 - 4.9 mm ² /s

10 Stability and Reactivity

Stability

This product is stable under the normal handling conditions. It does not decompose, burn or Self-ignite by heating. It does not react to water or air when contacted.

Reactivity

This product reacts with calcium and magnesium, forming gel.

The salts in alkali earth metals react with sodium silicate, forming hydrate precipitates.

It adheres to glass and tiles as white deposit.

It reacts with metals such as aluminum, zinc and so on, forming hydrogen.

Conditions to avoid

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

Hazardous decomposition products

Reacting with metals such as aluminum, zinc, tin, lead, etc., it produces combustible hydrogen gas.

11 Hazard Statement**About the product:**

Acute toxicity	No data
Skin corrosivity and irritation to skin	No data
Serious eye damage or eye irritation	Acute pain when in contact with eyes.

This product is determined to be Category 1 since its pH value is 11.0 - 13.0.

About sodium silicate:

Acute toxicity	Oral	Rats	LD50	1600 mg/kg ³⁾
		Mice	LD50	1100 mg/kg ³⁾
Skin corrosivity and irritation to skin	Skin	Rabbits		250 mg/24h Severe ³⁾

As an effect on human, it irritates skin and/or mucous membrane.

12 Environmental Impact Information

Eco toxicity	No data
Peristence, Decomposability	No data
Bioaccumulativity	No data
Mobility in soil	No data
Hazard to the ozone layer	No data

13 Precautions for disposal**Residual wastes**

Contract out the disposal to industrial waste disposal companies approved by the prefectural governors.

For small amounts of waste, dilute and dispose with a large amount of water after neutralizing with acid.

Contaminated containers and packages

Collect and recycle empty containers. For the containers that cannot be recycled, contract out the disposal to industrial waste disposal companies approved by the prefectural governors.

14 Precautions for Transportation

UN number	Not classified
Description (on UN transportation name)	Not classified
UN classification	Not classified
Container grade	Not classified
Marine pollutant	Category Y 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

PRTR Law	N/A
Industrial Safety and Health Act	N/A
Poisonous and Deleterious Substance Control Law	N/A
Explosives Control Act	N/A
High Pressure Gas Safety Law	N/A
Fire Service Act	N/A
Ship Safety Act	N/A
CSCL Regulation	Existing chemical substance (1-508)
Marine Pollution Prevention Act	Noxious liquid substance (Category Y substance)

16 Other Information**Expiration date for use of this product**

Consume within one year from shipment.

Cited Reference

- 1) Working environment standards (1988 Ministry of Labor Notification No.79)
- 2) Journal of Occupational Health (2006)
- 3) NIOSH : 1983-1983 Registry of Toxic Effects Chemical Substances

References

Chemical Risk Information Platform (CHRIIP) Website of National Institute of Technology and Evaluation (nite)

Note on the entries in this document

The entries in this document are prepared based on the materials and information available at this time. However, since not all literature and information could be examined, there could be omissions. Also, this document is subject to revision due to new knowledge, testing, and so on.

The entries are intended for normal handling. In case of any special handling, implement new safety measures suitable for the specific application and use.

Contact Information for this SDS

Aston Inc.

Engineering Department

14-16 Yasakahonmachi, Kita-ku, Okayama-shi, Okayama, 700-0075, Japan

TEL: +81-86-255-1511

FAX: +81-86-251-3270

E-mail: aston_2@cs21.jp