

Safety Data Sheet

ART-CS**1. Chemical Product and Company Identification**

Chemical name	Retarder		
Trade name:	ART-CS		
Application	Slow down the hydration of cement		
Manufacturer:	Jiangsu Arit New Materials Co., Ltd		
Address:	22 Huixin Road, Nanjing , China	Zip code:	211505
Email:	zhengxinabby@gmail.com		
Fax Number:	86-25-57678989		
Emergency phone number:	86-25-57675555		

2. Composition/information on ingredients

Components	CAS No.	Content
Starch	9005-25-8	20~30.00%
Polyphosphate	10361-03-2	50~60.00%
Water	7732-18-5	10~20.00%

3. Hazards Identification

Hazard Category: This product is an aqueous mixture of organic polymers and compounds.

It is non-flammable, non-explosive and non-toxic.

Invasion way: Skin and eyes contact, inhalation and mistake ingestion.

Health effect: May cause eye irritation. No stimulation to skin. May cause stimulation to oral cavity and stomach after mistake intake. No carcinogenicity.

Environment effect: Slight harm to fish and other animals.

Other hazards: None.

4. First Aid Measures

Skin contact: Take off contaminated clothing and wash off with soap and flowing water.

Eye contact: Rinse immediately with plenty of water or normal saline. Seek immediate

medical help if feel itching and painful.

Ingestion: Drink enough warm water and vomit. Consult a physician.

Inhalation: Move to fresh air environment if odor allergies.

5. Fire-fighting Measures

Hazardous characteristics: None.

Harmful burning waste: The aqueous solution is non-combustible. The solid composition burns to form carbon dioxide.

Extinguishing media: Foam, dry powder, carbon dioxide extinguishers or water sprays.

6. Accidental Release Measures

Release measures: Cut off the leakage sources. Prevent the released material from entering confined space such as sewers, flood discharge trench and so on.

Little leakage: Soak up with absorbent material, such as clay, sand, vermiculite or other inert materials. The diluted leakage can be discharged to the wastewater treatment system.

Mass leakage: If the leakage is not contaminated, collect the spills with a clean container for reuse. Construct a barrier or dig pits to hold waste leakage, then pump to tank or special collector, and transport to the waste disposal sites.

Elimination method: Collect the leakage, and wash the leakage with water.

Waste disposal: According to local environmental requirements.

7. Handling and Storage:

Handling note: Avoid contact with skin or eyes. Wear personal protective equipment.

Storage note: Stored in a cool and dry place, keep away from sunshine, rain, fire and heat.

8. Exposure Controls/Personal Protection

The maximum allowable concentration: Unlimited.

Monitoring method: No standard.

Engineering control: Ensure adequate ventilation.

Respiratory protection: If this concentration is exceeded, self-contained breathing apparatus must be used.

Eye protection: Safety eyewear is recommended.

Body protection: Workwear is recommended.

Hand protection: Protective gloves are recommended.

Other protection: No eating and drinking in work area in order to avoid the mistake.

9. Physical and Chemical Properties:

Form: liquid

Color: Reddish-brown transparent liquid

Odor: faint

pH: 4.0~5.0

Melting point: about -10°C

Boiling point: about 110°C

Relative density (Water=1): 1.5±0.2

Solubility: Soluble in water

Explosive limit/(V/V): Insignificance

Flash point: Insignificance

10. Stability and Reactivity

Chemical Stability: Good chemical stability. But if placed in high-temperature summer environment, bacterial contamination, bad smell and appearance deterioration is hard to avoid.

Conditions to avoid: High temperature or frozen environment.

Incompatibility with other materials: Rust, oily substances.

Hazardous polymerization: None.

Decomposition product: None.

11. Toxicological Information:

Acute toxicity: None, $LD_{50} > 20$ g/kg

Subacute and chronic toxicity: No information available.

Irritation: Have a stimulating effect to eyes, and a mild stimulating effect to mouth and stomach if mistake intake.

Sensitization: None.

Mutagenicity: None.

Teratogenicity: None.

Carcinogenicity: None.

Special note: None.

12. Ecological Information:

Ecotoxicity: No information available.

Biodegradability: Partially biodegradable.

Non-biodegradable: No information available.

Bioconcentration or bioaccumulation: No information available.

13. Disposal Considerations:

Nature of waste: non-hazardous waste, non-industrial solid waste.

Waste Disposal Method: proper burial place or treatment according to local environmental requirements.

14. Transport Information:

Dangerous Goods Code	Not available	Shipping classification	Not available
UN Number	Not available	Packing	Plastic containers, Anti-corrosion tank trucks
Package Markings	Non-dangerous liquid	Transport Caveats	None

15. Regulatory Information

This product is not classified as dangerous goods according to transport international regulations (IMDG, IATA, ADR/RID).

It is not limited by the hazardous chemical materials according to safety management regulations.

16. Additional Information

Revision date:	Jun 21th, 2024	Supervisor:	Nanjing University of Technology
Guidance Department:	R & D Center	Version:	Second Edition