

## SAFETY DATA SHEET

### Section 1: Identification

#### Product identifier

**Product Name:** GenFisher Hybridization and Wash Kit

**Product Code:** NGS02409

Recommended use of the chemical and restrictions on use

**Application:** For research and development purposes only.

**Uses advised against:** No specific uses advised against are identified.

#### Details of the supplier of the safety data sheet

**Manufacturer:** GenScript Corporation (Nanjing)

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**Telephone (General):** 1-732-885-9188

**Emergency telephone** 1-877-436-7274

**number:**

### Section 2: Hazards identification

According to OSHA 29 CFR 1910.1200 HCS

|                                    |   |   |
|------------------------------------|---|---|
| <b>Physical hazards:</b>           | Not Classified.   |   |
| <b>Health hazards:</b>             | Acute Tox. 2 - H300 Skin Irrit. 2 - H315 Eye Dam. 1 - H318<br>STOT SE 1 - H370. Eye Irrit. 2A - H319. |   |
| <b>Environment hazards:</b>        | Aquatic Chronic 2 - H411 Aquatic Chronic 3.   |   |
| <b>Label elements:</b>             |   |   |
| <b>Pictogram:</b>                  |                     |   |
| <b>Signal word:</b>                | Danger.   |   |
| <b>Hazard statements:</b>          | H300  | Fatal if swallowed.                                   |
|                                    | H311  | Toxic in contact with skin                            |
|                                    | H315  | Causes skin irritation.                               |
|                                    | H318  | Causes serious eye damage.                            |
|                                    | H319  | Causes serious eye irritation.                        |
|                                    | H370  | Causes damage to organs.                              |
|                                    | H411  | Toxic to aquatic life with long lasting effects.      |
|                                    | H412  | Harmful to aquatic life with long lasting effects.    |
| <b>Precautionary statement(s):</b> | P260  | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
|                                    | P264  | Wash contaminated skin thoroughly after handling.     |
|                                    | P273  | Avoid release to the environment.                     |

P280 Wear protective gloves/ protective clothing/  
eye protection/ face protection.

P301 + P310 + IF SWALLOWED: Immediately call a  
P330 POISON CENTER/doctor. Rinse mouth.

P302 + P352 + IF ON SKIN: Wash with plenty of water. Call  
P312 a POISON CENTER/doctor if you feel  
unwell.

P305 + P351 + IF IN EYES: Rinse cautiously with water for  
P338 + P310 several minutes. Remove contact lenses, if  
present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER/doctor.

P308 + P311 IF exposed or concerned: Call a POISON  
CENTER/doctor.

Supplemental None.

Hazard

Statements

**Contains:** Tetramethylammonium chloride, Ethylenediaminetetraacetic  
acid, Sodium dodecyl sulfate.

**Other hazards:** This substance/mixture contains no components considered  
to be either persistent, bioaccumulative and toxic (PBT), or  
very persistent and very bioaccumulative (vPvB) at levels of  
0.1% or higher.

## Section 3: Composition/Information on Ingredients

### Mixtures

| Chemical Name                | Cas number   | Weight % |
|------------------------------|--|----------|
| Tetramethylammonium chloride | 75-57-0  | 5-50%    |
| <b>Classification</b>        | Acute Tox. 2 - H300<br>Acute Tox. 3 - H311<br>Skin Irrit. 2 - H315<br>STOT SE 1 - H370<br>Aquatic Chronic 2 - H411 |          |

| Chemical Name                   | Cas number                                       | Weight % |
|---------------------------------|--|----------|
| Ethylenediaminetetraacetic acid | 60-00-4  | 1~10%    |
| <b>Classification</b>           | Eye Irrit. 2A - H319<br>Aquatic Chronic 3 – H412 |          |

| Chemical Name          | Cas number   | Weight % |
|------------------------|--|----------|
| Sodium dodecyl sulfate | 151-21-3   | 1~10%    |
| <b>Classification</b>  | Flam. Sol. 2 - H228<br>Acute Tox. 4 - H302<br>Acute Tox. 4 - H332<br>Skin Irrit. 2 - H315<br>Eye Dam. 1 - H318 |          |

STOT SE 3 – H315

Aquatic Acute 2 - H401

The full text for all hazard statements is displayed in Section 16.

**Composition comments:** The exact percentage is withheld as a trade secret in accordance with 29 CFR 1910.1200.

## Section 4: First-Aid Measures

### Description of first aid measures

**General information:** Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.

**Inhalation:** Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. Place unconscious person on their side in the recovery position and ensure breathing can take place.

**Ingestion:** Get medical attention immediately. Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the

recovery position and ensure breathing can take place. Keep affected person under observation.

**Skin Contact:** Rinse with water. Get medical attention if any discomfort continues.

**Eye Contact:** Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.

**Protection of first aiders:** It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

**Most important symptoms and effects, both acute and delayed.**

**Eye contact:** No specific symptoms known. May be slightly irritating to eyes.

**Skin contact:** Redness. Irritating to skin.

**General information:** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation:** A single exposure may cause the following adverse effects: Pain or irritation. Intoxication. Narcotic effect. Muscle weakness. Nausea, vomiting.

**Ingestion:** A single exposure may cause the following adverse effects: Unconsciousness, possibly death. May cause stomach pain or vomiting. May cause severe internal injury. Small amounts may cause serious damage.

**Indication of immediate medical attention and special treatment needed**

**Notes for the doctor:** Treat symptomatically. Keep affected person under observation.

**Specific treatments** No special treatment required.

## Section 5: Fire-Fighting Measures

### Extinguishing media

**Suitable extinguishing media:** The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

**Unsuitable extinguishing media:** Do not use water jet as an extinguisher, as this will spread the fire.

### Special hazards arising from the substance or mixture

**Specific hazards:** Containers can burst violently or explode when heated, due to excessive pressure build-up. This product is toxic.

**Hazardous combustion products:** Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapors.

### Advice for firefighters

**Protective actions during firefighting:** Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool

containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapors and spray/mists. Use suitable respiratory protection if ventilation is inadequate.

### Environmental precautions

**Environmental precautions:** Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

### Methods and material for containment and cleaning up



**Methods for cleaning up:** Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Small Spillages: Collect spillage. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

**Reference to other sections:** For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## Section 7: Handling and Storage

### Precautions for safe handling

**Usage precautions:** Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use.

Avoid the formation of mists. This product is toxic. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

**Advice on general occupational hygiene:** Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage precautions:** Store away from incompatible materials (see Section 10). Store locked up. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

**Storage class:** Toxic storage.

**Specific end uses(s)**

**Specific end use(s):** The identified uses for this product are detailed in Section 1.

**Section 8: Exposure Controls/Personal Protection**

**Ingredient comments:** No exposure limits known for ingredient(s).

**Exposure controls**

**Protective equipment:**



**Appropriate engineering controls:** Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to

control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

**Eye/face protection:**

Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

**Hand protection:**

Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

**Other skin and body protection:**

Wear appropriate clothing to prevent repeated or prolonged skin contact.

**Hygiene measures:**

Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

**Respiratory protection:**

If ventilation is inadequate, suitable respiratory protection must be worn. Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable

filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

**Environmental exposure controls:**

Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Section 9: Physical and Chemical Properties

### Information on basic physical and chemical properties

|   |                                      |
|---|--------------------------------------|
| <b>Appearance:</b>                      | Liquid.                              |
| <b>Color:</b>                           | Colorless.                           |
| <b>Odor:</b>                            | Odorless.                            |
| <b>Odor threshold:</b>                  | Not available.                       |
| <b>pH:</b>                              | Not available.                       |
| <b>Melting point:</b>                   | Not available.                       |
| <b>Initial boiling point and range:</b> | Not available.                       |
| <b>Flash point:</b>                     | No specific test data are available. |
| <b>Evaporation rate:</b>                | Not available.                       |

|  |                                 |
|--|---------------------------------|
| <b>Evaporation factor:</b>                           | Not available.                  |
| <b>Flammability (solid, gas):</b>                    | Not available.                  |
| <b>Upper/lower flammability or explosive limits:</b> | Not available.                  |
| <b>Other flammability:</b>                           | Not available.                  |
| <b>Vapor pressure:</b>                               | Not available.                  |
| <b>Vapor density:</b>                                | Not available.                  |
| <b>Relative density:</b>                             | Not available.                  |
| <b>Bulk density:</b>                                 | Not available.                  |
| <b>Solubility(ies):</b>                              | Not available.                  |
| <b>Partition coefficient:</b>                        | Not available.                  |
| <b>Auto-ignition temperature:</b>                    | Not available.                  |
| <b>Decomposition Temperature:</b>                    | Not available.                  |
| <b>Viscosity:</b>                                    | Not available.                  |
| <b>Explosive properties:</b>                         | Not considered to be explosive. |
| <b>Explosive under the influence of a flame:</b>     | Not available.                  |
| <b>Oxidizing properties:</b>                         | Not available.                  |
| <b>Other information:</b>                            | None.                           |

## Section 10: Stability and Reactivity

|  |   |
|--|---|
| <b>Reactivity:</b>                         | See the other subsections of this section for further details.  |
| <b>Stability:</b>                          | Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.   |
| <b>Possibility of hazardous reactions:</b> | No potentially hazardous reactions known.   |
| <b>Conditions to avoid:</b>                | There are no known conditions that are likely to result in a hazardous situation.   |
| <b>Materials to avoid:</b>                 | No specific material or group of materials is likely to react with the product to produce a hazardous situation.  |
| <b>Hazardous decomposition products:</b>   | Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapors. |

## Section 11: Toxicological Information

### Information on toxicological effects

#### Skin corrosion/irritation

**Animal data:** Skin Irrit. 2 - H315 Causes skin irritation.

#### Serious eye damage/irritation

##### Serious eye

**damage/irritation:** Eye Dam. 1 - H318 Causes serious eye damage.

**Respiratory sensitization**

**Respiratory sensitization:** Based on available data the classification criteria are not met.

**Skin sensitization**

**Skin sensitization:** Based on available data the classification criteria are not met.

**Germ cell mutagenicity**

**Genotoxicity - in vitro:** Based on available data the classification criteria are not met.

**Carcinogenicity**

**Carcinogenicity:** Based on available data the classification criteria are not met.

**IARC carcinogenicity:** None of the ingredients are listed or exempt.

**Reproductive toxicity****Reproductive toxicity-**

**fertility:** Based on available data the classification criteria are not met.

**Reproductive toxicity –**

**development:** Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**

**STOT - single exposure:** STOT SE 1 - H370 Causes damage to organs.

**Target organs:** Central nervous system

**Specific target organ toxicity - repeated exposure**

**STOT - repeated exposure:** Not classified as a specific target organ toxicant after repeated exposure.

**Aspiration hazard**

**Aspiration hazard:** Based on available data the classification criteria are not met.

**General information:** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

## Section 12 - Ecological Information

**Ecotoxicity:** Toxic to aquatic life.

**Toxicity:** Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

**Persistence and degradability**

**Persistence and degradability:**

The degradability of the product is not known.

**Bioaccumulative potential**

**Bio-Accumulative Potential** No data available on bioaccumulation.

**Partition coefficient** Not available.

**Mobility in soil**

**Mobility** No data available.

**Other adverse effects**

**Other adverse effects** None known.

## Section 13: Disposal Considerations

**Waste treatment methods**

**General information:** The generation of waste should be minimized or avoided wherever possible. This material and its container must be



disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

**Disposal methods:**

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

## Section 14: Transport Information

**UN Number**

**UN No. (TDG):** 2810

**UN No. (IMDG):** 2810

**UN No. (ICAO):** 2810

**UN No. (DOT):** 2810

**UN proper shipping name**

**Proper shipping name (TDG):** TOXIC LIQUID, ORGANIC, N.O.S.

**Proper shipping name** TOXIC LIQUID, ORGANIC, N.O.S.

**(IMDG):**

**Proper shipping name** TOXIC LIQUID, ORGANIC, N.O.S.

**(ICAO):**

**Proper shipping name (DOT):** Toxic, liquids, organic, n.o.s. (Tetramethylammonium chloride)

**Transport hazard class(es)**

**DOT hazard class:** 6.1

**TDG class:** 6.1

**TDG label(s):** 6.1

**IMDG Class:** 6.1

**ICAO class/division:** 6.1

**Transport labels:**



**Packing group**

**TDG Packing Group:** III

**IMDG packing group:** III

**ICAO packing group:** III

**DOT packing group:** III

**Environmental hazards**

**Environmentally Hazardous** No.

**Substance:**

**Special precautions for user** F-A, S-A

EmS:

## Section 15: Regulatory Information

### US Federal Regulations

#### **SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning**

##### **Quantities**

None of the ingredients are listed or exempt.

#### **CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**

None of the ingredients are listed or exempt.

#### **SARA Extremely Hazardous Substances EPCRA Reportable Quantities**

None of the ingredients are listed or exempt.

#### **SARA 313 Emission Reporting**

None of the ingredients are listed or exempt.

#### **SARA (311/312) Hazard Categories**

None of the ingredients are listed or exempt.

#### **FDA - Essential Chemical**

None of the ingredients are listed or exempt.

#### **FDA - Precursor Chemical**

None of the ingredients are listed or exempt.

### **Inventories**

#### **US - TSCA**

The following ingredients are listed or exempt:

**water**

## US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

## Section 16: Other Information

**Classification abbreviations** Acute Tox. = Acute toxicity.

**and acronyms:** Skin Irrit. = Skin irritation.

STOT SE = Specific target organ toxicity-single exposure.

Aquatic Chronic = Hazardous to the aquatic environment (chronic).

**Training advice:** Only trained personnel should use this material.

**Revision comments:** Contact legal for statement.

**Date Created:** 05/22/2019

**Date Updated:**

**Revision:** 1

**SDS No.:** 4581

**Hazard statements in full:**

|      |  |
|------|--|
| H300 | Fatal if swallowed.                                |
| H311 | Toxic in contact with skin.                        |
| H315 | Causes skin irritation.                            |
| H319 | Causes serious eye irritation.                     |
| H370 | Causes damage to organs.                           |
| H411 | Toxic to aquatic life with long lasting effects.   |
| H412 | Harmful to aquatic life with long lasting effects. |

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