# SAFETY DATA SHEET

**Singapore**

## Section 1. Identification

**GHS product identifier** **Biotin CAPture Kit, Series S**

**Catalogue Number** 28920234

**Other means of identification** Not available.

**Product type** Liquid.

**Relevant identified uses of the substance or mixture and uses advised against**

**Identified uses**
Analytical chemistry.
Laboratory chemicals
Scientific research and development

| **Uses advised against** | **Reason** |
|---|---|
| Consumer use | - |

**Supplier**

Cytiva
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA United Kingdom
+44 1494 508000

Cytiva Singapore
25 Tuas South Street 1
Singapore 638034

**Emergency telephone number (with hours of operation)**

+65 6863 6704
(hours of operation: 8.30 pm - 5.30 pm)

## Section 2. Hazards identification

**Classification of the substance or mixture** SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

**GHS label elements, including precautionary statements**

**Hazard pictograms**

**Signal word** Warning

**Hazard statements** Causes skin irritation.
Causes serious eye irritation.

**Precautionary statements**

**Prevention** Wear protective gloves. Wear eye or face protection. Wash thoroughly after handling.

**Response** IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

**Storage** Not applicable.

**Disposal** Not applicable.

**Other hazards which do not result in classification** None known.

## Section 3. Composition/information on ingredients

| | |
|---|---|
| **Substance/mixture** | Mixture |
| **Other means of identification** | Not available. |
| **Chemical formula** | Not applicable. |

| Ingredient name | % | Identifiers |
|---|---|---|
| sodium hydroxide | 4 | CAS: 1310-73-2<br>EC: 215-185-5 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Description of necessary first aid measures**

| | |
|---|---|
| **Eye contact** | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| **Inhalation** | Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| **Skin contact** | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| **Ingestion** | Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**

| | |
|---|---|
| **Eye contact** | Causes serious eye irritation. |
| **Inhalation** | No known significant effects or critical hazards. |
| **Skin contact** | Causes skin irritation. |
| **Ingestion** | No known significant effects or critical hazards. |

**Over-exposure signs/symptoms**

| | |
|---|---|
| **Eye contact** | Adverse symptoms may include the following:<br>pain or irritation<br>watering<br>redness |
| **Inhalation** | No specific data. |
| **Skin contact** | Adverse symptoms may include the following:<br>irritation<br>redness |
| **Ingestion** | No specific data. |

**Indication of immediate medical attention and special treatment needed, if necessary**

| | |
|---|---|
| **Notes to physician** | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| **Specific treatments** | No specific treatment. |
| **Protection of first-aiders** | No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. |

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Extinguishing media**

| | |
|---|---|
| **Suitable extinguishing media** | Use an extinguishing agent suitable for the surrounding fire. |
| **Unsuitable extinguishing media** | None known. |
| **Specific hazards arising from the chemical** | In a fire or if heated, a pressure increase will occur and the container may burst. |
| **Hazardous thermal decomposition products** | Decomposition products may include the following materials:<br>metal oxide/oxides |
| **Special protective actions for fire-fighters** | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| **Special protective equipment for fire-fighters** | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **For non-emergency personnel** | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| **For emergency responders** | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| **Environmental precautions** | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

**Methods and materials for containment and cleaning up**

| | |
|---|---|
| **Small spill** | Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| **Large spill** | Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. |

## Section 7. Handling and storage

**Precautions for safe handling**

| | |
|---|---|
| **Protective measures** | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| **Advice on general occupational hygiene** | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| **Conditions for safe storage, including any incompatibilities** | Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |

## Section 8. Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**

| Ingredient name | Exposure limits |
|---|---|
| sodium hydroxide | **Workplace Safety and Health Act (Singapore, 1/2025)**<br>PEL (short term) 15 minutes: 2 mg/m³. |

**Biological exposure indices**

No exposure indices known.

**Appropriate engineering controls** Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

| | |
|---|---|
| **Environmental exposure controls** | 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. |

**Individual protection measures**

| | |
|---|---|
| **Hygiene measures** | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| **Eye/face protection** | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. |

**Skin protection**

| | |
|---|---|
| **Hand protection** | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| **Body protection** | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| **Other skin protection** | Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| **Respiratory protection** | Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. |

## Section 9. Physical and chemical properties

**Appearance**

| | |
|---|---|
| **Physical state** | Liquid. |
| **Color** | Colorless. |
| **Odor** | Odorless. |
| **Odor threshold** | Not available. |
| **pH** | Not available. |
| **Melting point/freezing point** | Not available. |
| **Boiling point or initial boiling point and boiling range** | Not available. |
| **Flash point** | Not applicable. |
| **Burning time** | Not applicable. |
| **Burning rate** | Not applicable. |
| **Evaporation rate** | Not available. |
| **Flammability** | Not available. |
| **Lower and upper explosive (flammable) limits** | Not available. |
| **Vapor pressure** | Not available. |

| | Vapor Pressure at 20˚C | | | Vapor pressure at 50˚C | | |
|---|---|---|---|---|---|---|
| **Ingredient name** | **mm Hg** | **kPa** | **Method** | **mm Hg** | **kPa** | **Method** |
| water | 17.5 | 2.3 | | | | |
| sodium hydroxide | 0 | 0 | | | | |

| | |
|---|---|
| **Relative vapor density** | Not available. |
| **Relative density** | Not available. |

**Solubility(ies)**

| **Media** | **Result** |
|---|---|
| cold water | Easily soluble |
| hot water | Easily soluble |

| | |
|---|---|
| **Solubility in water** | Not available. |
| **Partition coefficient: n-octanol/ water** | Not applicable. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **SADT** | Not available. |
| **Viscosity** | Dynamic (room temperature): Not available.<br>Kinematic (room temperature): Not available.<br>Kinematic (40°C (104°F)): Not available. |
| **Flow time (ISO 2431)** | Not available. |

**Particle characteristics**

| | |
|---|---|
| **Median particle size** | Not applicable. |

## Section 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | No specific test data related to reactivity available for this product or its ingredients. |
| **Chemical stability** | The product is stable. |
| **Possibility of hazardous reactions** | Under normal conditions of storage and use, hazardous reactions will not occur. |
| **Conditions to avoid** | No specific data. |
| **Incompatible materials** | No specific data. |
| **Hazardous decomposition products** | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| **SADT** | Not available. |

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Skin corrosion/irritation**

| Product/ingredient name | Result |
|---|---|
| sodium hydroxide | **Human - Skin - Severe irritant**<br>Duration of treatment/exposure: 24 hours<br>Amount/concentration applied: 10 pph |

**Conclusion/Summary [Product]** Not available.

**Serious eye damage/eye irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

**Respiratory corrosion/irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

**Respiratory or skin sensitization**

Not available.

**Skin**

**Conclusion/Summary [Product]** Not available.

**Respiratory**

**Conclusion/Summary [Product]** Not available.

**Germ cell mutagenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Carcinogenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Reproductive toxicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

| | |
|---|---|
| **Information on the likely routes of exposure** | Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. |

**Potential acute health effects**

| | |
|---|---|
| **Eye contact** | Causes serious eye irritation. |
| **Inhalation** | No known significant effects or critical hazards. |
| **Skin contact** | Causes skin irritation. |
| **Ingestion** | No known significant effects or critical hazards. |

**Symptoms related to the physical, chemical and toxicological characteristics**

| | |
|---|---|
| **Eye contact** | Adverse symptoms may include the following:<br>pain or irritation<br>watering<br>redness |
| **Inhalation** | No specific data. |
| **Skin contact** | Adverse symptoms may include the following:<br>irritation<br>redness |
| **Ingestion** | No specific data. |

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

| | |
|---|---|
| **Potential immediate effects** | Not available. |
| **Potential delayed effects** | Not available. |

**Long term exposure**

| | |
|---|---|
| **Potential immediate effects** | Not available. |
| **Potential delayed effects** | Not available. |

**Potential chronic health effects**

Not available.

**Conclusion/Summary [Product]** Not available.

| | |
|---|---|
| **General** | No known significant effects or critical hazards. |
| **Carcinogenicity** | No known significant effects or critical hazards. |
| **Mutagenicity** | No known significant effects or critical hazards. |
| **Reproductive toxicity** | No known significant effects or critical hazards. |

**Numerical measures of toxicity**

**Acute toxicity estimates**

N/A

## Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result |
|---|---|
| sodium hydroxide | **Acute - LC50 - Fresh water**<br>Fish - Western mosquitofish - *Gambusia affinis* - Adult<br>125 ppm [96 hours]<br>Effect: Mortality |

**Conclusion/Summary [Product]** Not available.

**Persistence/degradability**

Not available.

**Conclusion/Summary [Product]** Not available.

**Bioaccumulative potential**

Not available.

**Mobility in soil**

**Soil/Water partition coefficient** Not available.

**Other adverse effects** No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

| | UN | IMDG | IATA |
|---|---|---|---|
| **UN number** | UN1824 | UN1824 | UN1824 |
| **UN proper shipping name** | SODIUM HYDROXIDE, SOLUTION | SODIUM HYDROXIDE, SOLUTION | SODIUM HYDROXIDE, SOLUTION |
| **Transport hazard class(es)** | 8  | 8  | 8  |
| **Packing group** | II | II | II |
| **Environmental hazards** | No. | No. | No. |
| **Additional information** | - | - | - |

| | ADR/RID | ADN |
|---|---|---|
| **UN number** | UN1824 | UN1824 |
| **UN proper shipping name** | SODIUM HYDROXIDE, SOLUTION | SODIUM HYDROXIDE, SOLUTION |

| | | |
|---|---|---|
| **Transport hazard class(es)** | 8  | 8  |
| **Packing group** | II | II |
| **Environmental hazards** | No. | No. |
| **Additional information** | | |

| | |
|---|---|
| **Special precautions for user** | **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage. |
| **Transport in bulk according to IMO instruments** | Not available. |

## Section 15. Regulatory information

**Singapore - hazardous chemicals under government control**

None.

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**International lists**

**National inventory**

| | |
|---|---|
| **United States** | All components are active or exempted. |
| **Canada inventory** | All components are listed or exempted. |
| **China** | All components are listed or exempted. |
| **Japan** | **Japan inventory (CSCL)**: All components are listed or exempted.<br>**Japan inventory (ISHL)**: Not determined. |

## Section 16. Other information

**History**

| | |
|---|---|
| **Date of printing** | 09 September 2025 |
| **Date of issue/Date of revision** | 09 September 2025 |
| **Date of previous issue** | 19 April 2022. |
| **Version** | 7 |
| | sds_author@cytiva.com |
| **Key to abbreviations** | ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>N/A = Not available<br>UN = United Nations |

**Procedure used to derive the classification**

| Classification | Justification |
|---|---|
| SKIN CORROSION/IRRITATION - Category 2 | Calculation method |
| SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A | Calculation method |

**References** Not available.

**Indicates information that has changed from previously issued version.**

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.