

SAFETY DATA SHEET



InterPlay Mammalian TAP System, Part Number 240104

Section 1. Identification

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|-------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------------------|-----------|---|-----------|--------------|-----------|------------|-----------|--------------------|-----------|-----------------------------|-----------|-----------------------------|-----------|-------------------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|
| Product identifier | : InterPlay Mammalian TAP System, Part Number 240104 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Part No. (Chemical Kit) | : 240104 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Part No. | : | <table> <tr> <td>β-Mercaptoethanol</td> <td>240107-53</td> </tr> <tr> <td>pCTAP-A Expression Vector</td> <td>240102-51</td> </tr> <tr> <td>pCTAP-B Expression Vector</td> <td>240102-52</td> </tr> <tr> <td>pCTAP-C Expression Vector</td> <td>240102-53</td> </tr> <tr> <td>pNTAP-Mef2a Expression Control Vector</td> <td>240101-55</td> </tr> <tr> <td>pCMV-Tag2-Mef2c Expression Control Vector</td> <td>240101-54</td> </tr> <tr> <td>Lysis Buffer</td> <td>240107-51</td> </tr> <tr> <td>0.5 M EDTA</td> <td>240107-52</td> </tr> <tr> <td>Streptavidin Resin</td> <td>240105-51</td> </tr> <tr> <td>Streptavidin Binding Buffer</td> <td>240107-54</td> </tr> <tr> <td>Streptavidin Elution Buffer</td> <td>240107-56</td> </tr> <tr> <td>Streptavidin Supernatant Supplement</td> <td>240107-57</td> </tr> <tr> <td>MS-Grade Calmodulin Resin</td> <td>240106-51</td> </tr> <tr> <td>Calmodulin Binding Buffer</td> <td>240107-58</td> </tr> <tr> <td>Calmodulin Elution Buffer</td> <td>240107-59</td> </tr> </table> | β-Mercaptoethanol | 240107-53 | pCTAP-A Expression Vector | 240102-51 | pCTAP-B Expression Vector | 240102-52 | pCTAP-C Expression Vector | 240102-53 | pNTAP-Mef2a Expression Control Vector | 240101-55 | pCMV-Tag2-Mef2c Expression Control Vector | 240101-54 | Lysis Buffer | 240107-51 | 0.5 M EDTA | 240107-52 | Streptavidin Resin | 240105-51 | Streptavidin Binding Buffer | 240107-54 | Streptavidin Elution Buffer | 240107-56 | Streptavidin Supernatant Supplement | 240107-57 | MS-Grade Calmodulin Resin | 240106-51 | Calmodulin Binding Buffer | 240107-58 | Calmodulin Elution Buffer | 240107-59 |
| β-Mercaptoethanol | 240107-53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pCTAP-A Expression Vector | 240102-51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pCTAP-B Expression Vector | 240102-52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pCTAP-C Expression Vector | 240102-53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pNTAP-Mef2a Expression Control Vector | 240101-55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pCMV-Tag2-Mef2c Expression Control Vector | 240101-54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lysis Buffer | 240107-51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.5 M EDTA | 240107-52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Streptavidin Resin | 240105-51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Streptavidin Binding Buffer | 240107-54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Streptavidin Elution Buffer | 240107-56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Streptavidin Supernatant Supplement | 240107-57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS-Grade Calmodulin Resin | 240106-51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Calmodulin Binding Buffer | 240107-58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Calmodulin Elution Buffer | 240107-59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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

Analytical reagent.

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|---|-------------------------|
| β-Mercaptoethanol | 0.75 ml (69 µl 14.4 M) |
| pCTAP-A Expression Vector | 0.02 ml (20 µg 1 µg/µl) |
| pCTAP-B Expression Vector | 0.02 ml (20ug 1ug/ul) |
| pCTAP-C Expression Vector | 0.02 ml (20 µg 1 µg/µl) |
| pNTAP-Mef2a Expression Control Vector | 0.03 ml (30 µg 1 µg/µl) |
| pCMV-Tag2-Mef2c Expression Control Vector | 0.03 ml (30 µg 1 µg/µl) |
| Lysis Buffer | 50 ml |
| 0.5 M EDTA | 0.2 ml |
| Streptavidin Resin | 1.25 ml |
| Streptavidin Binding Buffer | 25 ml |
| Streptavidin Elution Buffer | 5 ml |
| Streptavidin Supernatant Supplement | 0.1 ml |
| MS-Grade Calmodulin Resin | 0.625 ml |
| Calmodulin Binding Buffer | 40 ml |
| Calmodulin Elution Buffer | 2.5 ml |

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

β-Mercaptoethanol

| | |
|------|--|
| H227 | FLAMMABLE LIQUIDS - Category 4 |
| H301 | ACUTE TOXICITY (oral) - Category 3 |
| H310 | ACUTE TOXICITY (dermal) - Category 2 |
| H330 | ACUTE TOXICITY (inhalation) - Category 2 |
| H315 | SKIN CORROSION/IRRITATION - Category 2 |
| H318 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| H317 | SKIN SENSITISATION - Category 1 |
| H335 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 |
| H411 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |

0.5 M EDTA

| | |
|------|---|
| H319 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A |
|------|---|

Streptavidin Resin

| | |
|------|---|
| H226 | FLAMMABLE LIQUIDS - Category 3 |
| H319 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A |

Streptavidin Supernatant Supplement

| | |
|------|--|
| H360 | REPRODUCTIVE TOXICITY (Unborn child) - Category 1B |
|------|--|






MS-Grade Calmodulin Resin

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|------|---|
| H226 | FLAMMABLE LIQUIDS - Category 3 |
| H319 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A |

| | |
|---|---|
| <input checked="" type="checkbox"/> Streptavidin Supernatant Supplement | Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% |
| | Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10% |
| MS-Grade Calmodulin Resin | Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10% |

GHS label elements


Hazard pictograms

| | |
|---|--|
| <input checked="" type="checkbox"/> β-Mercaptoethanol |  |
| 0.5 M EDTA |  |
| Streptavidin Resin |  |
| Streptavidin Supernatant Supplement |  |
| MS-Grade Calmodulin Resin |  |



Section 2. Hazard(s) identification

| | | |
|---------------------------------|---|---|
| Signal word | : <input checked="" type="checkbox"/> Mercaptoethanol | DANGER |
| | pCTAP-A Expression Vector | No signal word. |
| | pCTAP-B Expression Vector | No signal word. |
| | pCTAP-C Expression Vector | No signal word. |
| | pNTAP-Mef2a Expression Control Vector | No signal word. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No signal word. |
| | Lysis Buffer | No signal word. |
| | 0.5 M EDTA | WARNING |
| | Streptavidin Resin | WARNING |
| | Streptavidin Binding Buffer | No signal word. |
| | Streptavidin Elution Buffer | No signal word. |
| | Streptavidin Supernatant Supplement | DANGER |
| | MS-Grade Calmodulin Resin | WARNING |
| | Calmodulin Binding Buffer | No signal word. |
| | Calmodulin Elution Buffer | No signal word. |
| Hazard statements | : <input checked="" type="checkbox"/> Mercaptoethanol | H227 - Combustible liquid. H310 + H330 - Fatal in contact with skin or if inhaled. H301 - Toxic if swallowed. H318 - Causes serious eye damage. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H335 - May cause respiratory irritation. H411 - Toxic to aquatic life with long lasting effects. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | H319 - Causes serious eye irritation. |
| | Streptavidin Resin | H226 - Flammable liquid and vapour. H319 - Causes serious eye irritation. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | H360 - May damage the unborn child. |
| | MS-Grade Calmodulin Resin | H226 - Flammable liquid and vapour. H319 - Causes serious eye irritation. |
| | Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| | Calmodulin Elution Buffer | No known significant effects or critical hazards. |
| Precautionary statements | | |
| Prevention | : <input checked="" type="checkbox"/> Mercaptoethanol | P280 - Wear protective gloves. Wear eye or face protection. P284 - Wear respiratory protection. P210 - Keep away from flames and hot surfaces. - No smoking. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P262 - Do not get in eyes, on skin, or on clothing. P260 - Do not breathe vapour. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling. P272 - Contaminated work clothing should not be allowed out of the workplace. |
| | pCTAP-A Expression Vector | Not applicable. |
| | pCTAP-B Expression Vector | Not applicable. |

Section 2. Hazard(s) identification

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|--|--|
| pCTAP-C Expression Vector | Not applicable. |
| pNTAP-Mef2a Expression Control Vector | Not applicable. |
| pCMV-Tag2-Mef2c Expression Control Vector | Not applicable. |
| Lysis Buffer | Not applicable. |
| 0.5 M EDTA | P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling. |
| Streptavidin Resin | P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge. P233 - Keep container tightly closed. P264 - Wash hands thoroughly after handling. |
| Streptavidin Binding Buffer | Not applicable. |
| Streptavidin Elution Buffer | Not applicable. |
| Streptavidin Supernatant Supplement | P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. |
| MS-Grade Calmodulin Resin | P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge. P233 - Keep container tightly closed. P264 - Wash hands thoroughly after handling. |
| Calmodulin Binding Buffer | Not applicable. |
| Calmodulin Elution Buffer | Not applicable. |
| Response :  -Mercaptoethanol | P391 - Collect spillage. P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. P301 + P310 + P330 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. P302 + P361 + P350 + P310 + P362 + P363 - IF ON SKIN: Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or physician. Take off contaminated clothing. Wash contaminated clothing before reuse. P333 + P313 - If skin irritation or rash occurs: Get medical attention. P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. |
| pCTAP-A Expression Vector | Not applicable. |
| pCTAP-B Expression Vector | Not applicable. |

Section 2. Hazard(s) identification

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|--|--|
| pCTAP-C Expression Vector | Not applicable. |
| pNTAP-Mef2a Expression Control Vector | Not applicable. |
| pCMV-Tag2-Mef2c Expression Control Vector | Not applicable. |
| Lysis Buffer | Not applicable. |
| 0.5 M EDTA | P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention. |
| Streptavidin Resin | P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention. |
| Streptavidin Binding Buffer | Not applicable. |
| Streptavidin Elution Buffer | Not applicable. |
| Streptavidin Supernatant Supplement | P308 + P313 - IF exposed or concerned: Get medical attention. |
| MS-Grade Calmodulin Resin | P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention. |
| Calmodulin Binding Buffer | Not applicable. |
| Calmodulin Elution Buffer | Not applicable. |
| Storage :  -Mercaptoethanol | P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool. |
| pCTAP-A Expression Vector | Not applicable. |
| pCTAP-B Expression Vector | Not applicable. |
| pCTAP-C Expression Vector | Not applicable. |
| pNTAP-Mef2a Expression Control Vector | Not applicable. |
| pCMV-Tag2-Mef2c Expression Control Vector | Not applicable. |
| Lysis Buffer | Not applicable. |
| 0.5 M EDTA | Not applicable. |
| Streptavidin Resin | P403 - Store in a well-ventilated place. P235 - Keep cool. |
| Streptavidin Binding Buffer | Not applicable. |
| Streptavidin Elution Buffer | Not applicable. |
| Streptavidin Supernatant Supplement | P405 - Store locked up. |
| MS-Grade Calmodulin Resin | P403 - Store in a well-ventilated place. P235 - Keep cool. |
| Calmodulin Binding Buffer | Not applicable. |
| Calmodulin Elution Buffer | Not applicable. |
| Disposal :  -Mercaptoethanol | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| pCTAP-A Expression Vector | Not applicable. |
| pCTAP-B Expression Vector | Not applicable. |
| pCTAP-C Expression Vector | Not applicable. |
| pNTAP-Mef2a Expression Control Vector | Not applicable. |

Section 2. Hazard(s) identification

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|--|--|
| pCMV-Tag2-Mef2c Expression Control Vector | Not applicable. |
| Lysis Buffer | Not applicable. |
| 0.5 M EDTA | Not applicable. |
| Streptavidin Resin | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Streptavidin Binding Buffer | Not applicable. |
| Streptavidin Elution Buffer | Not applicable. |
| Streptavidin Supernatant Supplement | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| MS-Grade Calmodulin Resin | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Calmodulin Binding Buffer | Not applicable. |
| Calmodulin Elution Buffer | Not applicable. |

Supplemental label elements

Additional warning phrases

| | |
|--|-----------------|
| : β -Mercaptoethanol | Not applicable. |
| pCTAP-A Expression Vector | Not applicable. |
| pCTAP-B Expression Vector | Not applicable. |
| pCTAP-C Expression Vector | Not applicable. |
| pNTAP-Mef2a Expression Control Vector | Not applicable. |
| pCMV-Tag2-Mef2c Expression Control Vector | Not applicable. |
| Lysis Buffer | Not applicable. |
| 0.5 M EDTA | Not applicable. |
| Streptavidin Resin | Not applicable. |
| Streptavidin Binding Buffer | Not applicable. |
| Streptavidin Elution Buffer | Not applicable. |
| Streptavidin Supernatant Supplement | Not applicable. |
| MS-Grade Calmodulin Resin | Not applicable. |
| Calmodulin Binding Buffer | Not applicable. |
| Calmodulin Elution Buffer | Not applicable. |

Other hazards which do not result in classification

| | |
|--|-------------|
| : β -Mercaptoethanol | None known. |
| pCTAP-A Expression Vector | None known. |
| pCTAP-B Expression Vector | None known. |
| pCTAP-C Expression Vector | None known. |
| pNTAP-Mef2a Expression Control Vector | None known. |
| pCMV-Tag2-Mef2c Expression Control Vector | None known. |
| Lysis Buffer | None known. |
| 0.5 M EDTA | None known. |
| Streptavidin Resin | None known. |
| Streptavidin Binding Buffer | None known. |
| Streptavidin Elution Buffer | None known. |
| Streptavidin Supernatant Supplement | None known. |
| MS-Grade Calmodulin Resin | None known. |
| Calmodulin Binding Buffer | None known. |
| Calmodulin Elution Buffer | None known. |

Section 3. Composition and ingredient information

| | | | |
|--------------------------|---|---|-----------|
| Substance/mixture | : | β-Mercaptoethanol | Substance |
| | | pCTAP-A Expression Vector | Mixture |
| | | pCTAP-B Expression Vector | Mixture |
| | | pCTAP-C Expression Vector | Mixture |
| | | pNTAP-Mef2a Expression Control Vector | Mixture |
| | | pCMV-Tag2-Mef2c Expression Control Vector | Mixture |
| | | Lysis Buffer | Mixture |
| | | 0.5 M EDTA | Mixture |
| | | Streptavidin Resin | Mixture |
| | | Streptavidin Binding Buffer | Mixture |
| | | Streptavidin Elution Buffer | Mixture |
| | | Streptavidin Supernatant Supplement | Mixture |
| | | MS-Grade Calmodulin Resin | Mixture |
| | | Calmodulin Binding Buffer | Mixture |
| | | Calmodulin Elution Buffer | Mixture |

CAS number/other identifiers

| Ingredient name | % (w/w) | CAS number |
|---|-----------|------------|
| β-Mercaptoethanol 2-Mercaptoethanol | 100 | 60-24-2 |
| 0.5 M EDTA Edetic acid | ≥10 - ≤30 | 60-00-4 |
| Streptavidin Resin Ethanol | ≥10 - ≤30 | 64-17-5 |
| Streptavidin Supernatant Supplement Imidazole | <1 | 288-32-4 |
| MS-Grade Calmodulin Resin Ethanol | ≥10 - ≤30 | 64-17-5 |

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 | : | β-Mercaptoethanol | Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. |
| | | pCTAP-A Expression Vector | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| | | pCTAP-B Expression Vector | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| | | pCTAP-C Expression Vector | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. |

Section 4. First aid measures

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| pNTAP-Mef2a Expression Control Vector | Check for and remove any contact lenses. Get medical attention if irritation occurs. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| pCMV-Tag2-Mef2c Expression Control Vector | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| Lysis Buffer | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| 0.5 M EDTA | 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. |
| Streptavidin Resin | 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. |
| Streptavidin Binding Buffer | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| Streptavidin Elution Buffer | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| Streptavidin Supernatant Supplement | 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 if irritation occurs. |
| MS-Grade Calmodulin Resin | 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. |
| Calmodulin Binding Buffer | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| Calmodulin Elution Buffer | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. |
| Inhalation | Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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. |
| pCTAP-A Expression Vector | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical |

Section 4. First aid measures

| | |
|---|--|
| pCTAP-B Expression Vector | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| pCTAP-C Expression Vector | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| pNTAP-Mef2a Expression Control Vector | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| pCMV-Tag2-Mef2c Expression Control Vector | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| Lysis Buffer | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| 0.5 M EDTA | 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Streptavidin Resin | 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. |
| Streptavidin Binding Buffer | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| Streptavidin Elution Buffer | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. |
| Streptavidin Supernatant Supplement | 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 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. |
| MS-Grade Calmodulin Resin | 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 |

Section 4. First aid measures

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.

Calmodulin Binding Buffer

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Calmodulin Elution Buffer

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact

: -Mercaptoethanol

Get medical attention immediately. Call a poison center or physician. Gently wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

pCTAP-A Expression Vector

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pCTAP-B Expression Vector

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pCTAP-C Expression Vector

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pNTAP-Mef2a Expression Control Vector

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pCMV-Tag2-Mef2c Expression Control Vector

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Lysis Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

0.5 M EDTA

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Streptavidin Resin

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Streptavidin Binding Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Streptavidin Elution Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Streptavidin Supernatant Supplement

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

MS-Grade Calmodulin Resin

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get

Section 4. First aid measures

| | | |
|------------------|--|--|
| | | medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| | Calmodulin Binding Buffer | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| | Calmodulin Elution Buffer | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| Ingestion | :  -Mercaptoethanol | Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Chemical burns must be treated promptly by a physician. 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. |
| | pCTAP-A Expression Vector | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| | pCTAP-B Expression Vector | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| | pCTAP-C Expression Vector | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| | pNTAP-Mef2a Expression Control Vector | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| | Lysis Buffer | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the |

Section 4. First aid measures

0.5 M EDTA

exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

Streptavidin Resin

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

Streptavidin Binding Buffer

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Streptavidin Elution Buffer

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Streptavidin Supernatant Supplement

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an

Section 4. First aid measures

| | |
|---------------------------|---|
| MS-Grade Calmodulin Resin | open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. |
| Calmodulin Binding Buffer | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |
| Calmodulin Elution Buffer | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

| | |
|--|---|
| : <input checked="" type="checkbox"/> -Mercaptoethanol | Causes serious eye damage. |
| pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| Lysis Buffer | No known significant effects or critical hazards. |
| 0.5 M EDTA | Causes serious eye irritation. |
| Streptavidin Resin | Causes serious eye irritation. |
| Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| MS-Grade Calmodulin Resin | Causes serious eye irritation. |
| Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| Calmodulin Elution Buffer | No known significant effects or critical hazards. |

Inhalation

| | |
|---|---|
| : <input type="checkbox"/> -Mercaptoethanol | Fatal if inhaled. May cause respiratory irritation. |
| pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| Lysis Buffer | No known significant effects or critical hazards. |

Section 4. First aid measures

| | | |
|--|---|--|
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| | Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| | Calmodulin Elution Buffer | No known significant effects or critical hazards. |
| Skin contact | : β -Mercaptoethanol | Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| | Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| | Calmodulin Elution Buffer | No known significant effects or critical hazards. |
| Ingestion | : β -Mercaptoethanol | Toxic if swallowed. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| | Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| | Calmodulin Elution Buffer | No known significant effects or critical hazards. |
| <u>Over-exposure signs/symptoms</u> | | |
| Eye contact | : β -Mercaptoethanol | Adverse symptoms may include the following: pain watering redness |
| | pCTAP-A Expression Vector | No specific data. |
| | pCTAP-B Expression Vector | No specific data. |
| | pCTAP-C Expression Vector | No specific data. |
| | pNTAP-Mef2a Expression Control Vector | No specific data. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No specific data. |
| | Lysis Buffer | No specific data. |
| | 0.5 M EDTA | Adverse symptoms may include the following: pain or irritation watering |

Section 4. First aid measures

| | | |
|---------------------|---|---|
| | Streptavidin Resin | redness Adverse symptoms may include the following: pain or irritation watering redness |
| | Streptavidin Binding Buffer | No specific data. |
| | Streptavidin Elution Buffer | No specific data. |
| | Streptavidin Supernatant Supplement | No specific data. |
| | MS-Grade Calmodulin Resin | Adverse symptoms may include the following: pain or irritation watering redness |
| | Calmodulin Binding Buffer | No specific data. |
| | Calmodulin Elution Buffer | No specific data. |
| Inhalation | : <input checked="" type="checkbox"/> Mercaptoethanol | Adverse symptoms may include the following: respiratory tract irritation coughing |
| | pCTAP-A Expression Vector | No specific data. |
| | pCTAP-B Expression Vector | No specific data. |
| | pCTAP-C Expression Vector | No specific data. |
| | pNTAP-Mef2a Expression Control Vector | No specific data. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No specific data. |
| | Lysis Buffer | No specific data. |
| | 0.5 M EDTA | No specific data. |
| | Streptavidin Resin | No specific data. |
| | Streptavidin Binding Buffer | No specific data. |
| | Streptavidin Elution Buffer | No specific data. |
| | Streptavidin Supernatant Supplement | Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations |
| | MS-Grade Calmodulin Resin | No specific data. |
| | Calmodulin Binding Buffer | No specific data. |
| | Calmodulin Elution Buffer | No specific data. |
| Skin contact | : <input checked="" type="checkbox"/> Mercaptoethanol | Adverse symptoms may include the following: pain or irritation redness blistering may occur |
| | pCTAP-A Expression Vector | No specific data. |
| | pCTAP-B Expression Vector | No specific data. |
| | pCTAP-C Expression Vector | No specific data. |
| | pNTAP-Mef2a Expression Control Vector | No specific data. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No specific data. |
| | Lysis Buffer | No specific data. |
| | 0.5 M EDTA | No specific data. |
| | Streptavidin Resin | No specific data. |
| | Streptavidin Binding Buffer | No specific data. |
| | Streptavidin Elution Buffer | No specific data. |
| | Streptavidin Supernatant Supplement | Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations |
| | MS-Grade Calmodulin Resin | No specific data. |
| | Calmodulin Binding Buffer | No specific data. |
| | Calmodulin Elution Buffer | No specific data. |

Section 4. First aid measures

| | | |
|------------------|---|---|
| Ingestion | : β -Mercaptoethanol | Adverse symptoms may include the following: stomach pains |
| | pCTAP-A Expression Vector | No specific data. |
| | pCTAP-B Expression Vector | No specific data. |
| | pCTAP-C Expression Vector | No specific data. |
| | pNTAP-Mef2a Expression Control Vector | No specific data. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No specific data. |
| | Lysis Buffer | No specific data. |
| | 0.5 M EDTA | No specific data. |
| | Streptavidin Resin | No specific data. |
| | Streptavidin Binding Buffer | No specific data. |
| | Streptavidin Elution Buffer | No specific data. |
| | Streptavidin Supernatant Supplement | Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations |
| | MS-Grade Calmodulin Resin | No specific data. |
| | Calmodulin Binding Buffer | No specific data. |
| | Calmodulin Elution Buffer | No specific data. |

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

| | | |
|---------------------------|---|---|
| Notes to physician | : β -Mercaptoethanol | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | pCTAP-A Expression Vector | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | pCTAP-B Expression Vector | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | pCTAP-C Expression Vector | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | pNTAP-Mef2a Expression Control Vector | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Lysis Buffer | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | 0.5 M EDTA | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| | Streptavidin Resin | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Streptavidin Binding Buffer | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Streptavidin Elution Buffer | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Streptavidin Supernatant Supplement | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | MS-Grade Calmodulin Resin | Treat symptomatically. Contact poison treatment |

Section 4. First aid measures

| | | |
|-----------------------------------|--|---|
| | Calmodulin Binding Buffer | specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Calmodulin Elution Buffer | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| Specific treatments | : β -Mercaptoethanol | No specific treatment. |
| | pCTAP-A Expression Vector | No specific treatment. |
| | pCTAP-B Expression Vector | No specific treatment. |
| | pCTAP-C Expression Vector | No specific treatment. |
| | pNTAP-Mef2a Expression Control Vector | No specific treatment. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No specific treatment. |
| | Lysis Buffer | No specific treatment. |
| | 0.5 M EDTA | No specific treatment. |
| | Streptavidin Resin | No specific treatment. |
| | Streptavidin Binding Buffer | No specific treatment. |
| | Streptavidin Elution Buffer | No specific treatment. |
| | Streptavidin Supernatant Supplement | No specific treatment. |
| | MS-Grade Calmodulin Resin | No specific treatment. |
| | Calmodulin Binding Buffer | No specific treatment. |
| | Calmodulin Elution Buffer | No specific treatment. |
| Protection of first-aiders | : <input checked="" type="checkbox"/> β -Mercaptoethanol | No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |
| | pCTAP-A Expression Vector | No action shall be taken involving any personal risk or without suitable training. |
| | pCTAP-B Expression Vector | No action shall be taken involving any personal risk or without suitable training. |
| | pCTAP-C Expression Vector | No action shall be taken involving any personal risk or without suitable training. |
| | pNTAP-Mef2a Expression Control Vector | No action shall be taken involving any personal risk or without suitable training. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No action shall be taken involving any personal risk or without suitable training. |
| | Lysis Buffer | No action shall be taken involving any personal risk or without suitable training. |
| | 0.5 M EDTA | 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. |
| | Streptavidin Resin | 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. |
| | Streptavidin Binding Buffer | No action shall be taken involving any personal risk or without suitable training. |
| | Streptavidin Elution Buffer | No action shall be taken involving any personal risk or without suitable training. |
| | Streptavidin Supernatant Supplement | No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person |

Section 4. First aid measures

| | |
|---------------------------|--|
| MS-Grade Calmodulin Resin | providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |
| Calmodulin Binding Buffer | 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. |
| Calmodulin Elution Buffer | No action shall be taken involving any personal risk or without suitable training. |

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media

| | |
|---|--|
| : β -Mercaptoethanol | Use dry chemical, CO ₂ , water spray (fog) or foam. |
| pCTAP-A Expression Vector | Use an extinguishing agent suitable for the surrounding fire. |
| pCTAP-B Expression Vector | Use an extinguishing agent suitable for the surrounding fire. |
| pCTAP-C Expression Vector | Use an extinguishing agent suitable for the surrounding fire. |
| pNTAP-Mef2a Expression Control Vector | Use an extinguishing agent suitable for the surrounding fire. |
| pCMV-Tag2-Mef2c Expression Control Vector | Use an extinguishing agent suitable for the surrounding fire. |
| Lysis Buffer | Use an extinguishing agent suitable for the surrounding fire. |
| 0.5 M EDTA | Use an extinguishing agent suitable for the surrounding fire. |
| Streptavidin Resin | Use dry chemical, CO ₂ , water spray (fog) or foam. |
| Streptavidin Binding Buffer | Use an extinguishing agent suitable for the surrounding fire. |
| Streptavidin Elution Buffer | Use an extinguishing agent suitable for the surrounding fire. |
| Streptavidin Supernatant Supplement | Use an extinguishing agent suitable for the surrounding fire. |
| MS-Grade Calmodulin Resin | Use dry chemical, CO ₂ , water spray (fog) or foam. |
| Calmodulin Binding Buffer | Use an extinguishing agent suitable for the surrounding fire. |
| Calmodulin Elution Buffer | Use an extinguishing agent suitable for the surrounding fire. |

Unsuitable extinguishing media

| | |
|---|-----------------------|
| : β -Mercaptoethanol | Do not use water jet. |
| pCTAP-A Expression Vector | None known. |
| pCTAP-B Expression Vector | None known. |
| pCTAP-C Expression Vector | None known. |
| pNTAP-Mef2a Expression Control Vector | None known. |
| pCMV-Tag2-Mef2c Expression Control Vector | None known. |
| Lysis Buffer | None known. |
| 0.5 M EDTA | None known. |
| Streptavidin Resin | Do not use water jet. |
| Streptavidin Binding Buffer | None known. |
| Streptavidin Elution Buffer | None known. |
| Streptavidin Supernatant Supplement | None known. |
| MS-Grade Calmodulin Resin | Do not use water jet. |
| Calmodulin Binding Buffer | None known. |
| Calmodulin Elution Buffer | None known. |

Section 5. Firefighting measures

Specific hazards arising from the chemical

: β -Mercaptoethanol

Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

| | |
|---|--|
| pCTAP-A Expression Vector | In a fire or if heated, a pressure increase will occur and the container may burst. |
| pCTAP-B Expression Vector | In a fire or if heated, a pressure increase will occur and the container may burst. |
| pCTAP-C Expression Vector | In a fire or if heated, a pressure increase will occur and the container may burst. |
| pNTAP-Mef2a Expression Control Vector | In a fire or if heated, a pressure increase will occur and the container may burst. |
| pCMV-Tag2-Mef2c Expression Control Vector | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Lysis Buffer | In a fire or if heated, a pressure increase will occur and the container may burst. |
| 0.5 M EDTA | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Streptavidin Resin | Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. |
| Streptavidin Binding Buffer | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Streptavidin Elution Buffer | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Streptavidin Supernatant Supplement | In a fire or if heated, a pressure increase will occur and the container may burst. |
| MS-Grade Calmodulin Resin | Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. |
| Calmodulin Binding Buffer | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Calmodulin Elution Buffer | In a fire or if heated, a pressure increase will occur and the container may burst. |

Hazardous thermal decomposition products

: β -Mercaptoethanol

Decomposition products may include the following materials:

carbon dioxide
carbon monoxide
sulfur oxides

| | |
|---|---|
| pCTAP-A Expression Vector | No specific data. |
| pCTAP-B Expression Vector | No specific data. |
| pCTAP-C Expression Vector | No specific data. |
| pNTAP-Mef2a Expression Control Vector | No specific data. |
| pCMV-Tag2-Mef2c Expression Control Vector | No specific data. |
| Lysis Buffer | No specific data. |
| 0.5 M EDTA | Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides |

Section 5. Firefighting measures

| | |
|---|--|
| Streptavidin Resin | Decomposition products may include the following materials: carbon dioxide carbon monoxide |
| Streptavidin Binding Buffer | No specific data. |
| Streptavidin Elution Buffer | No specific data. |
| Streptavidin Supernatant Supplement | Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides |
| MS-Grade Calmodulin Resin | Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides |
| Calmodulin Binding Buffer | No specific data. |
| Calmodulin Elution Buffer | No specific data. |
| Special protective actions for fire-fighters | |
| : β -Mercaptoethanol | 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. |
| pCTAP-A Expression Vector | 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. |
| pCTAP-B Expression Vector | 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. |
| pCTAP-C Expression Vector | 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. |
| pNTAP-Mef2a Expression Control Vector | 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. |
| pCMV-Tag2-Mef2c Expression Control Vector | 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. |
| Lysis Buffer | 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. |
| 0.5 M EDTA | 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. |
| Streptavidin Resin | 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. |
| Streptavidin Binding Buffer | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No |

Section 5. Firefighting measures

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| | | action shall be taken involving any personal risk or without suitable training. |
| | Streptavidin Elution Buffer | 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. |
| | Streptavidin Supernatant Supplement | 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. |
| | MS-Grade Calmodulin Resin | 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. |
| | Calmodulin Binding Buffer | 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. |
| | Calmodulin Elution Buffer | 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 | : β -Mercaptoethanol | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | pCTAP-A Expression Vector | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | pCTAP-B Expression Vector | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | pCTAP-C Expression Vector | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | pNTAP-Mef2a Expression Control Vector | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | Lysis Buffer | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | 0.5 M EDTA | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | Streptavidin Resin | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | Streptavidin Binding Buffer | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive |

Section 5. Firefighting measures

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| Streptavidin Elution Buffer | pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| Streptavidin Supernatant Supplement | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| MS-Grade Calmodulin Resin | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| Calmodulin Binding Buffer | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| Calmodulin Elution Buffer | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| Hazchem code | |
| : β -Mercaptoethanol | 2X |
| pCTAP-A Expression Vector | Not available. |
| pCTAP-B Expression Vector | Not available. |
| pCTAP-C Expression Vector | Not available. |
| pNTAP-Mef2a Expression Control Vector | Not available. |
| pCMV-Tag2-Mef2c Expression Control Vector | Not available. |
| Lysis Buffer | Not available. |
| 0.5 M EDTA | Not available. |
| Streptavidin Resin | •2Y |
| Streptavidin Binding Buffer | Not available. |
| Streptavidin Elution Buffer | Not available. |
| Streptavidin Supernatant Supplement | Not available. |
| MS-Grade Calmodulin Resin | •2Y |
| Calmodulin Binding Buffer | Not available. |
| Calmodulin Elution Buffer | Not available. |

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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| For non-emergency personnel | : β -Mercaptoethanol | 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| | pCTAP-A Expression Vector | 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 spilt material. Put on appropriate personal protective equipment. |
| | pCTAP-B Expression Vector | 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 |

Section 6. Accidental release measures

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| | through spilt material. Put on appropriate personal protective equipment. |
| pCTAP-C Expression Vector | 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 spilt material. Put on appropriate personal protective equipment. |
| pNTAP-Mef2a Expression Control Vector | 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 spilt material. Put on appropriate personal protective equipment. |
| pCMV-Tag2-Mef2c Expression Control Vector | 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 spilt material. Put on appropriate personal protective equipment. |
| Lysis Buffer | 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 spilt material. Put on appropriate personal protective equipment. |
| 0.5 M EDTA | 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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| Streptavidin Resin | 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| Streptavidin Binding Buffer | 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 spilt material. Put on appropriate personal protective equipment. |
| Streptavidin Elution Buffer | 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 spilt material. Put on appropriate personal protective equipment. |
| Streptavidin Supernatant Supplement | 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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on |

Section 6. Accidental release measures

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| MS-Grade Calmodulin Resin | appropriate personal protective equipment. 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| Calmodulin Binding Buffer | 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 spilt material. Put on appropriate personal protective equipment. |
| Calmodulin Elution Buffer | 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 spilt material. Put on appropriate personal protective equipment. |
| For emergency responders : β -Mercaptoethanol | If specialised 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". |
| pCTAP-A Expression Vector | If specialised 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". |
| pCTAP-B Expression Vector | If specialised 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". |
| pCTAP-C Expression Vector | If specialised 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". |
| pNTAP-Mef2a Expression Control Vector | If specialised 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". |
| pCMV-Tag2-Mef2c Expression Control Vector | If specialised 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". |
| Lysis Buffer | If specialised 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". |
| 0.5 M EDTA | If specialised 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". |
| Streptavidin Resin | If specialised 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". |
| Streptavidin Binding Buffer | If specialised 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". |

Section 6. Accidental release measures

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| Streptavidin Elution Buffer | If specialised 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". |
| Streptavidin Supernatant Supplement | If specialised 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". |
| MS-Grade Calmodulin Resin | If specialised 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". |
| Calmodulin Binding Buffer | If specialised 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". |
| Calmodulin Elution Buffer | If specialised 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". |

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| Environmental precautions : β -Mercaptoethanol | Avoid dispersal of spilt 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage. |
| pCTAP-A Expression Vector | Avoid dispersal of spilt 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). |
| pCTAP-B Expression Vector | Avoid dispersal of spilt 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). |
| pCTAP-C Expression Vector | Avoid dispersal of spilt 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). |
| pNTAP-Mef2a Expression Control Vector | Avoid dispersal of spilt 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). |
| pCMV-Tag2-Mef2c Expression Control Vector | Avoid dispersal of spilt 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). |
| Lysis Buffer | Avoid dispersal of spilt 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). |
| 0.5 M EDTA | Avoid dispersal of spilt 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). |

Section 6. Accidental release measures

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| Streptavidin Resin | Avoid dispersal of spilt 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). |
| Streptavidin Binding Buffer | Avoid dispersal of spilt 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). |
| Streptavidin Elution Buffer | Avoid dispersal of spilt 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). |
| Streptavidin Supernatant Supplement | Avoid dispersal of spilt 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). |
| MS-Grade Calmodulin Resin | Avoid dispersal of spilt 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). |
| Calmodulin Binding Buffer | Avoid dispersal of spilt 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). |
| Calmodulin Elution Buffer | Avoid dispersal of spilt 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 material for containment and cleaning up

Methods for cleaning up : β -Mercaptoethanol

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| | Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| pCTAP-A Expression Vector | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| pCTAP-B Expression Vector | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| pCTAP-C Expression Vector | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| pNTAP-Mef2a Expression | Stop leak if without risk. Move containers from spill |

Section 6. Accidental release measures

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| Control Vector | area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| pCMV-Tag2-Mef2c Expression Control Vector | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Lysis Buffer | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| 0.5 M EDTA | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Streptavidin Resin | Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Streptavidin Binding Buffer | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Streptavidin Elution Buffer | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Streptavidin Supernatant Supplement | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| MS-Grade Calmodulin Resin | Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Calmodulin Binding Buffer | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Calmodulin Elution Buffer | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an |

Section 6. Accidental release measures

inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

[Precautions for safe handling](#)

Protective measures

: -Mercaptoethanol

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

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| pCTAP-A Expression Vector | Put on appropriate personal protective equipment (see Section 8). |
| pCTAP-B Expression Vector | Put on appropriate personal protective equipment (see Section 8). |
| pCTAP-C Expression Vector | Put on appropriate personal protective equipment (see Section 8). |
| pNTAP-Mef2a Expression Control Vector | Put on appropriate personal protective equipment (see Section 8). |
| pCMV-Tag2-Mef2c Expression Control Vector | Put on appropriate personal protective equipment (see Section 8). |
| Lysis Buffer | Put on appropriate personal protective equipment (see Section 8). |
| 0.5 M EDTA | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour 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. |
| Streptavidin Resin | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| Streptavidin Binding Buffer | Put on appropriate personal protective equipment (see Section 8). |
| Streptavidin Elution Buffer | Put on appropriate personal protective equipment |

Section 7. Handling and storage

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| Streptavidin Supernatant Supplement | (see Section 8). Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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. |
| MS-Grade Calmodulin Resin | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| Calmodulin Binding Buffer | Put on appropriate personal protective equipment (see Section 8). |
| Calmodulin Elution Buffer | Put on appropriate personal protective equipment (see Section 8). |
| Advice on general occupational hygiene | : β -Mercaptoethanol 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. |
| pCTAP-A Expression Vector | 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. |
| pCTAP-B Expression Vector | 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. |
| pCTAP-C Expression Vector | 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. |
| pNTAP-Mef2a Expression | Eating, drinking and smoking should be prohibited in |

Section 7. Handling and storage

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| Control Vector | 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. |
| pCMV-Tag2-Mef2c Expression Control Vector | 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. |
| Lysis Buffer | 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. |
| 0.5 M EDTA | 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. |
| Streptavidin Resin | 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. |
| Streptavidin Binding Buffer | 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. |
| Streptavidin Elution Buffer | 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. |
| Streptavidin Supernatant Supplement | 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. |
| MS-Grade Calmodulin Resin | 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. |
| Calmodulin Binding Buffer | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and |

Section 7. Handling and storage

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| <p>Calmodulin Elution Buffer</p> | <p>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. 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.</p> |
| <p>Conditions for safe storage, including any incompatibilities : -Mercaptoethanol</p> | <p>Store in accordance with local regulations. Store in a segregated and approved area. 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. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |
| <p>pCTAP-A Expression Vector</p> | <p>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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |
| <p>pCTAP-B Expression Vector</p> | <p>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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |
| <p>pCTAP-C Expression Vector</p> | <p>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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |
| <p>pNTAP-Mef2a Expression Control Vector</p> | <p>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</p> |

Section 7. Handling and storage

pCMV-Tag2-Mef2c
Expression Control Vector

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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Lysis Buffer

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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

0.5 M EDTA

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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Streptavidin Resin

Store in accordance with local regulations. Store in a segregated and approved area. 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.

Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Streptavidin Binding Buffer

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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for

Section 7. Handling and storage

| | |
|-------------------------------------|--|
| Streptavidin Elution Buffer | <p>incompatible materials before handling or use. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |
| Streptavidin Supernatant Supplement | <p>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. Store locked up. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |
| MS-Grade Calmodulin Resin | <p>Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |
| Calmodulin Binding Buffer | <p>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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |
| Calmodulin Elution Buffer | <p>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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> |

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Streptavidin Resin Ethanol | Safe Work Australia (Australia, 1/2014). TWA: 1880 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours. |
| MS-Grade Calmodulin Resin Ethanol | Safe Work Australia (Australia, 1/2014). TWA: 1880 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours. |

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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. Contaminated work clothing should not be allowed out of the workplace. 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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

| | |
|---|---------|
| : β -Mercaptoethanol | Liquid. |
| pCTAP-A Expression Vector | Liquid. |
| pCTAP-B Expression Vector | Liquid. |
| pCTAP-C Expression Vector | Liquid. |
| pNTAP-Mef2a Expression Control Vector | Liquid. |
| pCMV-Tag2-Mef2c Expression Control Vector | Liquid. |
| Lysis Buffer | Liquid. |
| 0.5 M EDTA | Liquid. |
| Streptavidin Resin | Liquid. |
| Streptavidin Binding Buffer | Liquid. |
| Streptavidin Elution Buffer | Liquid. |
| Streptavidin Supernatant Supplement | Liquid. |
| MS-Grade Calmodulin Resin | Liquid. |
| Calmodulin Binding Buffer | Liquid. |
| Calmodulin Elution Buffer | Liquid. |

Colour

| | |
|---|----------------|
| : β -Mercaptoethanol | Colourless. |
| pCTAP-A Expression Vector | Not available. |
| pCTAP-B Expression Vector | Not available. |
| pCTAP-C Expression Vector | Not available. |
| pNTAP-Mef2a Expression Control Vector | Not available. |
| pCMV-Tag2-Mef2c Expression Control Vector | Not available. |
| Lysis Buffer | Not available. |
| 0.5 M EDTA | Not available. |
| Streptavidin Resin | Not available. |
| Streptavidin Binding Buffer | Not available. |
| Streptavidin Elution Buffer | Not available. |
| Streptavidin Supernatant Supplement | Not available. |
| MS-Grade Calmodulin Resin | Not available. |
| Calmodulin Binding Buffer | Not available. |
| Calmodulin Elution Buffer | Not available. |

Odour

| | |
|---|-----------------|
| : β -Mercaptoethanol | Characteristic. |
| pCTAP-A Expression Vector | Not available. |
| pCTAP-B Expression Vector | Not available. |
| pCTAP-C Expression Vector | Not available. |
| pNTAP-Mef2a Expression Control Vector | Not available. |
| pCMV-Tag2-Mef2c Expression Control Vector | Not available. |
| Lysis Buffer | Not available. |
| 0.5 M EDTA | Not available. |
| Streptavidin Resin | Not available. |
| Streptavidin Binding Buffer | Not available. |
| Streptavidin Elution Buffer | Not available. |
| Streptavidin Supernatant Supplement | Not available. |
| MS-Grade Calmodulin Resin | Not available. |
| Calmodulin Binding Buffer | Not available. |
| Calmodulin Elution Buffer | Not available. |

Section 9. Physical and chemical properties

| | | | | |
|------------------------|----------------------|---|---------------------------|-------------------|
| Odour threshold | : | β-Mercaptoethanol | Not available. | |
| | | pCTAP-A Expression Vector | Not available. | |
| | | pCTAP-B Expression Vector | Not available. | |
| | | pCTAP-C Expression Vector | Not available. | |
| | | pNTAP-Mef2a Expression Control Vector | Not available. | |
| | | pCMV-Tag2-Mef2c Expression Control Vector | Not available. | |
| | | Lysis Buffer | Not available. | |
| | | 0.5 M EDTA | Not available. | |
| | | Streptavidin Resin | Not available. | |
| | | Streptavidin Binding Buffer | Not available. | |
| | | Streptavidin Elution Buffer | Not available. | |
| | | Streptavidin Supernatant Supplement | Not available. | |
| | | MS-Grade Calmodulin Resin | Not available. | |
| | | Calmodulin Binding Buffer | Not available. | |
| | | Calmodulin Elution Buffer | Not available. | |
| | pH | : | β-Mercaptoethanol | Not available. |
| | | | pCTAP-A Expression Vector | 7.5 |
| | | | pCTAP-B Expression Vector | 7.5 |
| | | | pCTAP-C Expression Vector | 7.5 |
| | | pNTAP-Mef2a Expression Control Vector | 7.5 | |
| | | pCMV-Tag2-Mef2c Expression Control Vector | 7.5 | |
| | | Lysis Buffer | 8 | |
| | | 0.5 M EDTA | 8 | |
| | | Streptavidin Resin | 7.5 | |
| | | Streptavidin Binding Buffer | 8 | |
| | | Streptavidin Elution Buffer | 8 | |
| | | Streptavidin Supernatant Supplement | Not available. | |
| | | MS-Grade Calmodulin Resin | 7.5 | |
| | | Calmodulin Binding Buffer | 8 | |
| | | Calmodulin Elution Buffer | 8 | |
| Melting point | | : | β-Mercaptoethanol | <-100°C (<-148°F) |
| | | | pCTAP-A Expression Vector | 0°C (32°F) |
| | | | pCTAP-B Expression Vector | 0°C (32°F) |
| | | | pCTAP-C Expression Vector | 0°C (32°F) |
| | | pNTAP-Mef2a Expression Control Vector | 0°C (32°F) | |
| | | pCMV-Tag2-Mef2c Expression Control Vector | 0°C (32°F) | |
| | | Lysis Buffer | 0°C (32°F) | |
| | | 0.5 M EDTA | Not available. | |
| | | Streptavidin Resin | Not available. | |
| | | Streptavidin Binding Buffer | 0°C (32°F) | |
| | | Streptavidin Elution Buffer | 0°C (32°F) | |
| | | Streptavidin Supernatant Supplement | 0°C (32°F) | |
| | | MS-Grade Calmodulin Resin | Not available. | |
| | | Calmodulin Binding Buffer | 0°C (32°F) | |
| | | Calmodulin Elution Buffer | 0°C (32°F) | |
| | Boiling point | : | β-Mercaptoethanol | 155.8°C (312.4°F) |
| | | | pCTAP-A Expression Vector | 100°C (212°F) |
| | | | pCTAP-B Expression Vector | 100°C (212°F) |
| | | | pCTAP-C Expression Vector | 100°C (212°F) |
| | | pNTAP-Mef2a Expression Control Vector | 100°C (212°F) | |
| | | pCMV-Tag2-Mef2c Expression Control Vector | 100°C (212°F) | |
| | | Expression Control Vector | 100°C (212°F) | |

Section 9. Physical and chemical properties

| | | |
|----------------------------------|---|--|
| | Lysis Buffer | 100°C (212°F) |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Not available. |
| | Streptavidin Binding Buffer | 100°C (212°F) |
| | Streptavidin Elution Buffer | 100°C (212°F) |
| | Streptavidin Supernatant Supplement | 100°C (212°F) |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | 100°C (212°F) |
| | Calmodulin Elution Buffer | 100°C (212°F) |
| Flash point | : β-Mercaptoethanol | Closed cup: 74°C (165.2°F) Open cup: 74°C (165.2°F) |
| | pCTAP-A Expression Vector | Not available. |
| | pCTAP-B Expression Vector | Not available. |
| | pCTAP-C Expression Vector | Not available. |
| | pNTAP-Mef2a Expression Control Vector | Not available. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Not available. |
| | Lysis Buffer | Not available. |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Closed cup: 37.8 to 61°C (100 to 141.8°F) |
| | Streptavidin Binding Buffer | Not available. |
| | Streptavidin Elution Buffer | Not available. |
| | Streptavidin Supernatant Supplement | Not available. |
| | MS-Grade Calmodulin Resin | Closed cup: 37.8 to 61°C (100 to 141.8°F) |
| | Calmodulin Binding Buffer | Not available. |
| | Calmodulin Elution Buffer | Not available. |
| Evaporation rate | : β-Mercaptoethanol | Not available. |
| | pCTAP-A Expression Vector | Not available. |
| | pCTAP-B Expression Vector | Not available. |
| | pCTAP-C Expression Vector | Not available. |
| | pNTAP-Mef2a Expression Control Vector | Not available. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Not available. |
| | Lysis Buffer | Not available. |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Not available. |
| | Streptavidin Binding Buffer | Not available. |
| | Streptavidin Elution Buffer | Not available. |
| | Streptavidin Supernatant Supplement | Not available. |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | Not available. |
| | Calmodulin Elution Buffer | Not available. |
| Flammability (solid, gas) | : β-Mercaptoethanol | Not applicable. |
| | pCTAP-A Expression Vector | Not applicable. |
| | pCTAP-B Expression Vector | Not applicable. |
| | pCTAP-C Expression Vector | Not applicable. |
| | pNTAP-Mef2a Expression Control Vector | Not applicable. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Not applicable. |
| | Lysis Buffer | Not applicable. |
| | 0.5 M EDTA | Not applicable. |
| | Streptavidin Resin | Not applicable. |
| | Streptavidin Binding Buffer | Not applicable. |
| | Streptavidin Elution Buffer | Not applicable. |
| | Streptavidin Supernatant Supplement | Not applicable. |

Section 9. Physical and chemical properties

| | | |
|---|---|--|
| | MS-Grade Calmodulin Resin | Not applicable. |
| | Calmodulin Binding Buffer | Not applicable. |
| | Calmodulin Elution Buffer | Not applicable. |
| Lower and upper explosive (flammable) limits | : β -Mercaptoethanol | Lower: 2.3% Upper: 18% |
| | pCTAP-A Expression Vector | Not available. |
| | pCTAP-B Expression Vector | Not available. |
| | pCTAP-C Expression Vector | Not available. |
| | pNTAP-Mef2a Expression Control Vector | Not available. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Not available. |
| | Lysis Buffer | Not available. |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Not available. |
| | Streptavidin Binding Buffer | Not available. |
| | Streptavidin Elution Buffer | Not available. |
| | Streptavidin Supernatant Supplement | Not available. |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | Not available. |
| | Calmodulin Elution Buffer | Not available. |
| Vapour pressure | : β -Mercaptoethanol | 0.13 kPa (0.98 mm Hg) [room temperature] |
| | pCTAP-A Expression Vector | Not available. |
| | pCTAP-B Expression Vector | Not available. |
| | pCTAP-C Expression Vector | Not available. |
| | pNTAP-Mef2a Expression Control Vector | Not available. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Not available. |
| | Lysis Buffer | Not available. |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Not available. |
| | Streptavidin Binding Buffer | Not available. |
| | Streptavidin Elution Buffer | Not available. |
| | Streptavidin Supernatant Supplement | Not available. |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | Not available. |
| | Calmodulin Elution Buffer | Not available. |
| Vapour density | : β -Mercaptoethanol | 2.7 [Air = 1] |
| | pCTAP-A Expression Vector | Not available. |
| | pCTAP-B Expression Vector | Not available. |
| | pCTAP-C Expression Vector | Not available. |
| | pNTAP-Mef2a Expression Control Vector | Not available. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Not available. |
| | Lysis Buffer | Not available. |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Not available. |
| | Streptavidin Binding Buffer | Not available. |
| | Streptavidin Elution Buffer | Not available. |
| | Streptavidin Supernatant Supplement | Not available. |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | Not available. |
| | Calmodulin Elution Buffer | Not available. |

Section 9. Physical and chemical properties

| | | | | |
|---|-------------------|---|--|--|
| Relative density | : | β -Mercaptoethanol | 1.1 | |
| | | pCTAP-A Expression Vector | Not available. | |
| | | pCTAP-B Expression Vector | Not available. | |
| | | pCTAP-C Expression Vector | Not available. | |
| | | pNTAP-Mef2a Expression Control Vector | Not available. | |
| | | pCMV-Tag2-Mef2c Expression Control Vector | Not available. | |
| | | Lysis Buffer | Not available. | |
| | | 0.5 M EDTA | Not available. | |
| | | Streptavidin Resin | Not available. | |
| | | Streptavidin Binding Buffer | Not available. | |
| | | Streptavidin Elution Buffer | Not available. | |
| | | Streptavidin Supernatant Supplement | Not available. | |
| | | MS-Grade Calmodulin Resin | Not available. | |
| | | Calmodulin Binding Buffer | Not available. | |
| | | Calmodulin Elution Buffer | Not available. | |
| | Solubility | : | β -Mercaptoethanol | Easily soluble in the following materials: cold water and hot water. |
| | | | pCTAP-A Expression Vector | Easily soluble in the following materials: cold water and hot water. |
| | | pCTAP-B Expression Vector | Easily soluble in the following materials: cold water and hot water. | |
| | | pCTAP-C Expression Vector | Easily soluble in the following materials: cold water and hot water. | |
| | | pNTAP-Mef2a Expression Control Vector | Easily soluble in the following materials: cold water and hot water. | |
| | | pCMV-Tag2-Mef2c Expression Control Vector | Easily soluble in the following materials: cold water and hot water. | |
| | | Lysis Buffer | Easily soluble in the following materials: cold water and hot water. | |
| | | 0.5 M EDTA | Soluble in the following materials: cold water and hot water. | |
| | | Streptavidin Resin | Soluble in the following materials: cold water and hot water. | |
| | | Streptavidin Binding Buffer | Easily soluble in the following materials: cold water and hot water. | |
| | | Streptavidin Elution Buffer | Easily soluble in the following materials: cold water and hot water. | |
| | | Streptavidin Supernatant Supplement | Easily soluble in the following materials: cold water and hot water. | |
| | | MS-Grade Calmodulin Resin | Soluble in the following materials: cold water and hot water. | |
| | | Calmodulin Binding Buffer | Easily soluble in the following materials: cold water and hot water. | |
| | | Calmodulin Elution Buffer | Easily soluble in the following materials: cold water and hot water. | |
| Partition coefficient: n-octanol/water | | : | β -Mercaptoethanol | -0.056 |
| | | | pCTAP-A Expression Vector | Not available. |
| | | pCTAP-B Expression Vector | Not available. | |
| | | pCTAP-C Expression Vector | Not available. | |
| | | pNTAP-Mef2a Expression Control Vector | Not available. | |
| | | pCMV-Tag2-Mef2c Expression Control Vector | Not available. | |
| | | Lysis Buffer | Not available. | |
| | | 0.5 M EDTA | Not available. | |
| | | Streptavidin Resin | Not available. | |
| | | Streptavidin Binding Buffer | Not available. | |
| | | Streptavidin Elution Buffer | Not available. | |
| | | Streptavidin Supernatant | Not available. | |

Section 9. Physical and chemical properties

| | | |
|----------------------------------|-----------------------------|--|
| | Supplement | |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | Not available. |
| Auto-ignition temperature | Calmodulin Elution Buffer | Not available. |
| : | β -Mercaptoethanol | 295 °C (563 °F) |
| | pCTAP-A Expression Vector | Not available. |
| | pCTAP-B Expression Vector | Not available. |
| | pCTAP-C Expression Vector | Not available. |
| | pNTAP-Mef2a Expression | Not available. |
| | Control Vector | |
| | pCMV-Tag2-Mef2c | Not available. |
| | Expression Control Vector | |
| | Lysis Buffer | Not available. |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Not available. |
| | Streptavidin Binding Buffer | Not available. |
| | Streptavidin Elution Buffer | Not available. |
| | Streptavidin Supernatant | Not available. |
| | Supplement | |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | Not available. |
| | Calmodulin Elution Buffer | Not available. |
| Decomposition temperature | β -Mercaptoethanol | Not available. |
| : | pCTAP-A Expression Vector | Not available. |
| | pCTAP-B Expression Vector | Not available. |
| | pCTAP-C Expression Vector | Not available. |
| | pNTAP-Mef2a Expression | Not available. |
| | Control Vector | |
| | pCMV-Tag2-Mef2c | Not available. |
| | Expression Control Vector | |
| | Lysis Buffer | Not available. |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Not available. |
| | Streptavidin Binding Buffer | Not available. |
| | Streptavidin Elution Buffer | Not available. |
| | Streptavidin Supernatant | Not available. |
| | Supplement | |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | Not available. |
| | Calmodulin Elution Buffer | Not available. |
| Viscosity | β -Mercaptoethanol | Dynamic (room temperature): 3.43 mPa·s (3.43 cP) |
| : | pCTAP-A Expression Vector | Not available. |
| | pCTAP-B Expression Vector | Not available. |
| | pCTAP-C Expression Vector | Not available. |
| | pNTAP-Mef2a Expression | Not available. |
| | Control Vector | |
| | pCMV-Tag2-Mef2c | Not available. |
| | Expression Control Vector | |
| | Lysis Buffer | Not available. |
| | 0.5 M EDTA | Not available. |
| | Streptavidin Resin | Not available. |
| | Streptavidin Binding Buffer | Not available. |
| | Streptavidin Elution Buffer | Not available. |
| | Streptavidin Supernatant | Not available. |
| | Supplement | |
| | MS-Grade Calmodulin Resin | Not available. |
| | Calmodulin Binding Buffer | Not available. |
| | Calmodulin Elution Buffer | Not available. |

Section 10. Stability and reactivity

| | | |
|---|---|--|
| Reactivity | : β -Mercaptoethanol | No specific test data related to reactivity available for this product or its ingredients. |
| | pCTAP-A Expression Vector | No specific test data related to reactivity available for this product or its ingredients. |
| | pCTAP-B Expression Vector | No specific test data related to reactivity available for this product or its ingredients. |
| | pCTAP-C Expression Vector | No specific test data related to reactivity available for this product or its ingredients. |
| | pNTAP-Mef2a Expression Control Vector | No specific test data related to reactivity available for this product or its ingredients. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No specific test data related to reactivity available for this product or its ingredients. |
| | Lysis Buffer | No specific test data related to reactivity available for this product or its ingredients. |
| | 0.5 M EDTA | No specific test data related to reactivity available for this product or its ingredients. |
| | Streptavidin Resin | No specific test data related to reactivity available for this product or its ingredients. |
| | Streptavidin Binding Buffer | No specific test data related to reactivity available for this product or its ingredients. |
| | Streptavidin Elution Buffer | No specific test data related to reactivity available for this product or its ingredients. |
| | Streptavidin Supernatant Supplement | No specific test data related to reactivity available for this product or its ingredients. |
| | MS-Grade Calmodulin Resin | No specific test data related to reactivity available for this product or its ingredients. |
| | Calmodulin Binding Buffer | No specific test data related to reactivity available for this product or its ingredients. |
| | Calmodulin Elution Buffer | No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : β -Mercaptoethanol | The product is stable. |
| | pCTAP-A Expression Vector | The product is stable. |
| | pCTAP-B Expression Vector | The product is stable. |
| | pCTAP-C Expression Vector | The product is stable. |
| | pNTAP-Mef2a Expression Control Vector | The product is stable. |
| | pCMV-Tag2-Mef2c Expression Control Vector | The product is stable. |
| | Lysis Buffer | The product is stable. |
| | 0.5 M EDTA | The product is stable. |
| | Streptavidin Resin | The product is stable. |
| | Streptavidin Binding Buffer | The product is stable. |
| | Streptavidin Elution Buffer | The product is stable. |
| | Streptavidin Supernatant Supplement | The product is stable. |
| | MS-Grade Calmodulin Resin | The product is stable. |
| | Calmodulin Binding Buffer | The product is stable. |
| | Calmodulin Elution Buffer | The product is stable. |
| Possibility of hazardous reactions | : β -Mercaptoethanol | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | pCTAP-A Expression Vector | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | pCTAP-B Expression Vector | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | pCTAP-C Expression Vector | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | pNTAP-Mef2a Expression Control Vector | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | pCMV-Tag2-Mef2c Expression Control Vector | Under normal conditions of storage and use, hazardous reactions will not occur. |

Section 10. Stability and reactivity

| | |
|-------------------------------------|---|
| Lysis Buffer | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 0.5 M EDTA | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Streptavidin Resin | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Streptavidin Binding Buffer | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Streptavidin Elution Buffer | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Streptavidin Supernatant Supplement | Under normal conditions of storage and use, hazardous reactions will not occur. |
| MS-Grade Calmodulin Resin | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Calmodulin Binding Buffer | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Calmodulin Elution Buffer | Under normal conditions of storage and use, hazardous reactions will not occur. |

Conditions to avoid

| | |
|---|---|
| : β -Mercaptoethanol | Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas. |
| pCTAP-A Expression Vector | No specific data. |
| pCTAP-B Expression Vector | No specific data. |
| pCTAP-C Expression Vector | No specific data. |
| pNTAP-Mef2a Expression Control Vector | No specific data. |
| pCMV-Tag2-Mef2c Expression Control Vector | No specific data. |
| Lysis Buffer | No specific data. |
| 0.5 M EDTA | No specific data. |
| Streptavidin Resin | Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| Streptavidin Binding Buffer | No specific data. |
| Streptavidin Elution Buffer | No specific data. |
| Streptavidin Supernatant Supplement | No specific data. |
| MS-Grade Calmodulin Resin | Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| Calmodulin Binding Buffer | No specific data. |
| Calmodulin Elution Buffer | No specific data. |

Incompatible materials

| | |
|---|--|
| : β -Mercaptoethanol | Reactive or incompatible with the following materials: oxidizing materials |
| pCTAP-A Expression Vector | May react or be incompatible with oxidising materials. |
| pCTAP-B Expression Vector | May react or be incompatible with oxidising materials. |
| pCTAP-C Expression Vector | May react or be incompatible with oxidising materials. |
| pNTAP-Mef2a Expression Control Vector | May react or be incompatible with oxidising materials. |
| pCMV-Tag2-Mef2c Expression Control Vector | May react or be incompatible with oxidising materials. |
| Lysis Buffer | May react or be incompatible with oxidising materials. |
| 0.5 M EDTA | May react or be incompatible with oxidising materials. |
| Streptavidin Resin | Reactive or incompatible with the following materials: oxidizing materials |
| Streptavidin Binding Buffer | May react or be incompatible with oxidising materials. |
| Streptavidin Elution Buffer | May react or be incompatible with oxidising materials. |
| Streptavidin Supernatant | May react or be incompatible with oxidising materials. |

Section 10. Stability and reactivity

| | | |
|---|----------|--|
| Supplement | | |
| MS-Grade Calmodulin Resin | | Reactive or incompatible with the following materials: oxidizing materials |
| Calmodulin Binding Buffer | | May react or be incompatible with oxidising materials. |
| Calmodulin Elution Buffer | | May react or be incompatible with oxidising materials. |
| Hazardous decomposition products | : | |
| β -Mercaptoethanol | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| pCTAP-A Expression Vector | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| pCTAP-B Expression Vector | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| pCTAP-C Expression Vector | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| pNTAP-Mef2a Expression Control Vector | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| pCMV-Tag2-Mef2c Expression Control Vector | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Lysis Buffer | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| 0.5 M EDTA | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Streptavidin Resin | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Streptavidin Binding Buffer | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Streptavidin Elution Buffer | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Streptavidin Supernatant Supplement | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| MS-Grade Calmodulin Resin | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Calmodulin Binding Buffer | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Calmodulin Elution Buffer | | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

[Information on toxicological effects](#)

[Acute toxicity](#)

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|-------------------------------------|------------|------------------------------------|--------------|
| β-Mercaptoethanol 2-Mercaptoethanol | LD50 Oral | Rat | 244 mg/kg | - |
| Streptavidin Resin Ethanol | LC50 Inhalation Vapour LD50 Oral | Rat Rat | 124700 mg/m ³ 7 g/kg | 4 hours - |
| Streptavidin Supernatant Supplement Imidazole | LD50 Oral | Rat | 220 mg/kg | - |
| MS-Grade Calmodulin Resin Ethanol | LC50 Inhalation Vapour LD50 Oral | Rat Rat | 124700 mg/m ³ 7 g/kg | 4 hours - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|--------------------------|---------|-------|-----------------------------------|-------------|
| β-Mercaptoethanol 2-Mercaptoethanol | Eyes - Severe irritant | Rabbit | - | 2 milligrams | - |
| Streptavidin Resin Ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.06666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| MS-Grade Calmodulin Resin Ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.06666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |

Conclusion/Summary

Skin : 240105-51: Repeated exposure may cause skin dryness or cracking.

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

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Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|---|------------|-------------------|------------------------------|
| β-Mercaptoethanol 2-Mercaptoethanol | Category 3 | Not applicable. | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

| | | |
|---|--|--|
| Information on likely routes of exposure | <ul style="list-style-type: none"> β-Mercaptoethanol pCTAP-A Expression Vector pCTAP-B Expression Vector pCTAP-C Expression Vector pNTAP-Mef2a Expression Control Vector pCMV-Tag2-Mef2c Expression Control Vector Lysis Buffer 0.5 M EDTA Streptavidin Resin Streptavidin Binding Buffer Streptavidin Elution Buffer Streptavidin Supernatant Supplement MS-Grade Calmodulin Resin Calmodulin Binding Buffer Calmodulin Elution Buffer | <ul style="list-style-type: none"> Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Not available. Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. |
|---|--|--|

Potential acute health effects

Eye contact




| | |
|---|---|
| β-Mercaptoethanol | Causes serious eye damage. |
| pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| Lysis Buffer | No known significant effects or critical hazards. |
| 0.5 M EDTA | Causes serious eye irritation. |
| Streptavidin Resin | Causes serious eye irritation. |
| Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| MS-Grade Calmodulin Resin | Causes serious eye irritation. |
| Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| Calmodulin Elution Buffer | No known significant effects or critical hazards. |

Section 11. Toxicological information

| | | |
|---------------------|--|---|
| Inhalation | : β -Mercaptoethanol pCTAP-A Expression Vector pCTAP-B Expression Vector pCTAP-C Expression Vector pNTAP-Mef2a Expression Control Vector pCMV-Tag2-Mef2c Expression Control Vector Lysis Buffer 0.5 M EDTA Streptavidin Resin Streptavidin Binding Buffer Streptavidin Elution Buffer Streptavidin Supernatant Supplement MS-Grade Calmodulin Resin Calmodulin Binding Buffer Calmodulin Elution Buffer | Fatal if inhaled. May cause respiratory irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Skin contact | : β -Mercaptoethanol pCTAP-A Expression Vector pCTAP-B Expression Vector pCTAP-C Expression Vector pNTAP-Mef2a Expression Control Vector pCMV-Tag2-Mef2c Expression Control Vector Lysis Buffer 0.5 M EDTA Streptavidin Resin Streptavidin Binding Buffer Streptavidin Elution Buffer Streptavidin Supernatant Supplement MS-Grade Calmodulin Resin Calmodulin Binding Buffer Calmodulin Elution Buffer | Fatal in contact with skin. Causes skin irritation. May cause an allergic skin reaction. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Ingestion | : β -Mercaptoethanol pCTAP-A Expression Vector pCTAP-B Expression Vector pCTAP-C Expression Vector pNTAP-Mef2a Expression Control Vector pCMV-Tag2-Mef2c Expression Control Vector Lysis Buffer 0.5 M EDTA Streptavidin Resin Streptavidin Binding Buffer Streptavidin Elution Buffer Streptavidin Supernatant Supplement MS-Grade Calmodulin Resin Calmodulin Binding Buffer Calmodulin Elution Buffer | Toxic if swallowed. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. |

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

| | | | | |
|-------------------------------------|---|--|---|---|
| Eye contact | : |  -Mercaptoethanol | Adverse symptoms may include the following: | |
| | | | pain | |
| | | | watering | |
| | | | redness | |
| | | | pCTAP-A Expression Vector | No specific data. |
| | | | pCTAP-B Expression Vector | No specific data. |
| | | | pCTAP-C Expression Vector | No specific data. |
| | | | pNTAP-Mef2a Expression | No specific data. |
| | | | Control Vector | |
| | | | pCMV-Tag2-Mef2c | No specific data. |
| | | | Expression Control Vector | |
| | | | Lysis Buffer | No specific data. |
| | | | 0.5 M EDTA | Adverse symptoms may include the following: |
| | | | | pain or irritation |
| | watering | | | |
| | redness | | | |
| | Streptavidin Resin | Adverse symptoms may include the following: | | |
| | | pain or irritation | | |
| | | watering | | |
| | | redness | | |
| | Streptavidin Binding Buffer | No specific data. | | |
| | Streptavidin Elution Buffer | No specific data. | | |
| | Streptavidin Supernatant Supplement | No specific data. | | |
| | MS-Grade Calmodulin Resin | Adverse symptoms may include the following: | | |
| | | pain or irritation | | |
| | | watering | | |
| | | redness | | |
| | Calmodulin Binding Buffer | No specific data. | | |
| | Calmodulin Elution Buffer | No specific data. | | |
| Inhalation | : |  -Mercaptoethanol | Adverse symptoms may include the following: | |
| | | | respiratory tract irritation | |
| | | | coughing | |
| | | | pCTAP-A Expression Vector | No specific data. |
| | | | pCTAP-B Expression Vector | No specific data. |
| | | | pCTAP-C Expression Vector | No specific data. |
| | | | pNTAP-Mef2a Expression | No specific data. |
| | | | Control Vector | |
| | | | pCMV-Tag2-Mef2c | No specific data. |
| | | | Expression Control Vector | |
| | | | Lysis Buffer | No specific data. |
| | | | 0.5 M EDTA | No specific data. |
| | | | Streptavidin Resin | No specific data. |
| | | | Streptavidin Binding Buffer | No specific data. |
| Streptavidin Elution Buffer | No specific data. | | | |
| Streptavidin Supernatant Supplement | Adverse symptoms may include the following: | | | |
| | | reduced foetal weight | | |
| | | increase in foetal deaths | | |
| | | skeletal malformations | | |
| | MS-Grade Calmodulin Resin | No specific data. | | |
| | Calmodulin Binding Buffer | No specific data. | | |
| | Calmodulin Elution Buffer | No specific data. | | |
| Skin contact | : |  -Mercaptoethanol | Adverse symptoms may include the following: | |
| | | | pain or irritation | |
| | | | redness | |
| | | | blistering may occur | |
| | | | pCTAP-A Expression Vector | No specific data. |
| | | | pCTAP-B Expression Vector | No specific data. |
| | | | pCTAP-C Expression Vector | No specific data. |
| | | | pNTAP-Mef2a Expression | No specific data. |
| | | | Control Vector | |
| | | | pCMV-Tag2-Mef2c | No specific data. |

Section 11. Toxicological information

| | | |
|------------------|---|---|
| | Expression Control Vector | |
| | Lysis Buffer | No specific data. |
| | 0.5 M EDTA | No specific data. |
| | Streptavidin Resin | No specific data. |
| | Streptavidin Binding Buffer | No specific data. |
| | Streptavidin Elution Buffer | No specific data. |
| | Streptavidin Supernatant Supplement | Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations |
| | MS-Grade Calmodulin Resin | No specific data. |
| | Calmodulin Binding Buffer | No specific data. |
| | Calmodulin Elution Buffer | No specific data. |
| Ingestion | : β -Mercaptoethanol | Adverse symptoms may include the following: stomach pains |
| | pCTAP-A Expression Vector | No specific data. |
| | pCTAP-B Expression Vector | No specific data. |
| | pCTAP-C Expression Vector | No specific data. |
| | pNTAP-Mef2a Expression Control Vector | No specific data. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No specific data. |
| | Lysis Buffer | No specific data. |
| | 0.5 M EDTA | No specific data. |
| | Streptavidin Resin | No specific data. |
| | Streptavidin Binding Buffer | No specific data. |
| | Streptavidin Elution Buffer | No specific data. |
| | Streptavidin Supernatant Supplement | Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations |
| | MS-Grade Calmodulin Resin | No specific data. |
| | Calmodulin Binding Buffer | No specific data. |
| | Calmodulin Elution Buffer | No specific data. |

Delayed and immediate effects as well as 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.

| | | |
|----------------|---|---|
| General | : β -Mercaptoethanol | Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |

Section 11. Toxicological information

| | | |
|------------------------|---|---|
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| | Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| | Calmodulin Elution Buffer | No known significant effects or critical hazards. |
| Carcinogenicity | : β -Mercaptoethanol | No known significant effects or critical hazards. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| | Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| | Calmodulin Elution Buffer | No known significant effects or critical hazards. |
| Mutagenicity | : β -Mercaptoethanol | No known significant effects or critical hazards. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| | Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| | Calmodulin Elution Buffer | No known significant effects or critical hazards. |
| Teratogenicity | : β -Mercaptoethanol | No known significant effects or critical hazards. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | May damage the unborn child. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| | Calmodulin Binding Buffer | No known significant effects or critical hazards. |
| | Calmodulin Elution Buffer | No known significant effects or critical hazards. |

Section 11. Toxicological information

| | | |
|------------------------------|---|---|
| Developmental effects | : β -Mercaptoethanol | No known significant effects or critical hazards. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| Calmodulin Binding Buffer | No known significant effects or critical hazards. | |
| Calmodulin Elution Buffer | No known significant effects or critical hazards. | |
| Fertility effects | : β -Mercaptoethanol | No known significant effects or critical hazards. |
| | pCTAP-A Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-B Expression Vector | No known significant effects or critical hazards. |
| | pCTAP-C Expression Vector | No known significant effects or critical hazards. |
| | pNTAP-Mef2a Expression Control Vector | No known significant effects or critical hazards. |
| | pCMV-Tag2-Mef2c Expression Control Vector | No known significant effects or critical hazards. |
| | Lysis Buffer | No known significant effects or critical hazards. |
| | 0.5 M EDTA | No known significant effects or critical hazards. |
| | Streptavidin Resin | No known significant effects or critical hazards. |
| | Streptavidin Binding Buffer | No known significant effects or critical hazards. |
| | Streptavidin Elution Buffer | No known significant effects or critical hazards. |
| | Streptavidin Supernatant Supplement | No known significant effects or critical hazards. |
| | MS-Grade Calmodulin Resin | No known significant effects or critical hazards. |
| Calmodulin Binding Buffer | No known significant effects or critical hazards. | |
| Calmodulin Elution Buffer | No known significant effects or critical hazards. | |

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|--|---|--|----------|
| 0.5 M EDTA Edetic acid | Acute EC50 113000 μ g/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 41000 μ g/l Fresh water | Fish - Lepomis macrochirus | 96 hours |
| Streptavidin Resin Ethanol | Acute EC50 17.921 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute EC50 2000 μ g/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 25500 μ g/l Marine water | Crustaceans - Artemia franciscana - Larvae | 48 hours |
| | Acute LC50 42000 μ g/l Fresh water | Fish - Oncorhynchus mykiss | 4 days |
| | Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| Chronic NOEC 100 μ g/l Fresh water | Daphnia - Daphnia magna - | 21 days | |

Section 12. Ecological information

| | | | |
|---|-------------------------------------|---|----------|
| MS-Grade Calmodulin Resin Ethanol | Chronic NOEC 0.375 ul/L Fresh water | Neonate Fish - Gambusia holbrooki - Larvae | 12 weeks |
| | Acute EC50 17.921 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute EC50 2000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 25500 µg/l Marine water | Crustaceans - Artemia franciscana - Larvae | 48 hours |
| | Acute LC50 42000 µg/l Fresh water | Fish - Oncorhynchus mykiss | 4 days |
| Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa | 96 hours | |
| Chronic NOEC 100 ul/L Fresh water | Daphnia - Daphnia magna - Neonate | 21 days | |
| Chronic NOEC 0.375 ul/L Fresh water | Fish - Gambusia holbrooki - Larvae | 12 weeks | |

Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|------------------|
| 0.5 M EDTA Edetic acid | - | - | Not readily |
| Streptavidin Resin Ethanol | - | - | Readily |
| MS-Grade Calmodulin Resin Ethanol | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| β-Mercaptoethanol 2-Mercaptoethanol | -0.056 | - | low |
| 0.5 M EDTA Edetic acid | -3.86 | 1.8 | low |
| Streptavidin Resin Ethanol | -0.35 | 0.5 | low |
| Streptavidin Supernatant Supplement Imidazole | -0.02 | - | low |
| MS-Grade Calmodulin Resin Ethanol | -0.35 | 0.5 | low |

Mobility in soil


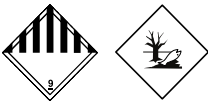

Soil/water partition coefficient (K_{oc}) : Not available.

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | ADG | IMDG | IATA |
|-----------------------------------|--|--|--|
| UN number | UN3316 | UN3316 | UN3316 |
| UN proper shipping name | CHEMICAL KIT | CHEMICAL KIT | <input checked="" type="checkbox"/> Chemical kit |
| Transport hazard class(es) | 9  | 9  | 9  |
| Packing group | II | II | II |
| Environmental hazards | <input checked="" type="checkbox"/> Yes. The environmentally hazardous substance mark is not required. | Yes. | <input checked="" type="checkbox"/> Yes. The environmentally hazardous substance mark is not required. |

Additional information

Remarks: Excepted Quantity

- ADG** : **Hazchem code** 2Z
Special provisions 251, 340
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-A, _S-P_
Special provisions 251, 340
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 10 kg. Packaging instructions: 960. Cargo Aircraft Only: 10 kg. Packaging instructions: 960. Limited Quantities - Passenger Aircraft: 1 kg. Packaging instructions: Y960.
Special provisions A44, A163

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 Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

6, 5

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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.

Inventory list

| | |
|--------------------------|--|
| Australia | : <input checked="" type="checkbox"/> Not determined. |
| Canada | : <input checked="" type="checkbox"/> Not determined. |
| China | : All components are listed or exempted. |
| Europe | : All components are listed or exempted. |
| Japan | : Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined. |
| Malaysia | : Not determined. |
| New Zealand | : <input checked="" type="checkbox"/> Not determined. |
| Philippines | : <input checked="" type="checkbox"/> Not determined. |
| Republic of Korea | : Not determined. |
| Taiwan | : All components are listed or exempted. |
| Thailand | : <input checked="" type="checkbox"/> Not determined. |
| Turkey | : Not determined. |
| United States | : All components are listed or exempted. |
| Viet Nam | : <input checked="" type="checkbox"/> Not determined. |

Section 16. Any other relevant information

History

Date of issue/Date of revision : 23/01/2018

Date of previous issue : 31/05/2016.

Version : 7

Key to abbreviations

ADG = Australian Dangerous Goods
 ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 NOHSC = National Occupational Health and Safety Commission

Section 16. Any other relevant information

SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Procedure used to derive the classification

| Classification | Justification |
|---|---|
| β-Mercaptoethanol Flam. Liq. 4, H227 Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411 | On basis of test data On basis of test data On basis of test data On basis of test data Expert judgment Expert judgment Expert judgment Expert judgment Expert judgment |
| 0.5 M EDTA Eye Irrit. 2A, H319 | Calculation method |
| Streptavidin Resin Flam. Liq. 3, H226 Eye Irrit. 2A, H319 | On basis of test data Calculation method |
| Streptavidin Supernatant Supplement Repr. 1B, H360 (Unborn child) | Calculation method |
| MS-Grade Calmodulin Resin Flam. Liq. 3, H226 Eye Irrit. 2A, H319 | On basis of test data Calculation method |

References : Not available.

☑ Indicates information that has changed from previously issued version.

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