<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G9831</td>
<td>pHAb Thiol Reactive Dye, 250ug</td>
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Components:

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<td>G983A</td>
<td>pHAb Thiol Reactive Dye, 0.3umol/250ug</td>
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</table>
Safety Data Sheet
acc. to OSHA HCS

Identification

Product identifier
Trade name: pHAb Thiol Reactive Dye, 0.3umol/250ug
Article number: G983A
Application of the substance / the mixture Laboratory chemicals

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330
Information department: SDS author: Regulatory.Affairs@promega.com
Emergency telephone number:
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

Hazard(s) identification

Classification of the substance or mixture

GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

Label elements
GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms GHS07
Signal word Warning

Hazard-determining components of labeling:
pHAb Thiol Reactive Dye

Hazard statements
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.

Precautionary statements
Wash thoroughly after handling.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves.
Wear eye protection / face protection.
Use only outdoors or in a well-ventilated area.

**IF ON SKIN:** Wash with plenty of water.

**If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a POISON CENTER/doctor if you feel unwell.

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing.

**If skin irritation occurs:** Get medical advice/attention.

**If eye irritation persists:** Get medical advice/attention.

**Take off contaminated clothing and wash it before reuse.**

**Store in a well-ventilated place. Keep container tightly closed.**

**Store locked up.**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

**NFPA ratings (scale 0 - 4):**
- Health = 1
- Fire = 0
- Reactivity = 0

**HMIS-ratings (scale 0 - 4):**
- Health = 1
- Fire = 0
- Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):** Irritant

**Primary route(s) of entry:**
- Dermal
- Inhalation
- Oral

**Target Organ(s):** Not applicable or unknown

**Other hazards:**

This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.

**Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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**3 Composition/information on ingredients**

**Chemical characterization: Substances**

**CAS No. Description**

pHAb Thiol Reactive Dye

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**4 First-aid measures**

**Description of first aid measures**

**After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

Seek medical treatment in case of complaints.

**After skin contact:**
Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.
### 5 Fire-fighting measures

**Extinguishing media**

- **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture** None known

**Advice for firefighters** No special advice

### 6 Accidental release measures

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

- Remove persons from danger area.
- Avoid formation of dust.
- Wear protective clothing.

**Environmental precautions:** Do not allow to enter sewers/surface or ground water.

**Methods and material for containment and cleaning up:**

- Pick up mechanically.
- Ensure adequate ventilation.

**Reference to other sections**

- See Section 7 for information on safe handling.
- See Section 13 for disposal information.

### 7 Handling and storage

**Handling:**

- **Precautions for safe handling** No special precautions are necessary if used correctly.

**Information about protection against explosions and fires:** The product is not flammable.

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

**Storage:**

- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep receptacle tightly sealed.

**Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

**Control parameters**

- **Components with limit values that require monitoring at the workplace:** Not required.

**Additional information:** The lists that were valid during the creation were used as basis.
Exposure controls
Personal protective equipment:

General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not eat or drink while working.
Clean skin thoroughly immediately after handling the product.

Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:
Protective gloves
Select the glove material considering penetration time, rate of diffusion and degradation time.
It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Eye protection:
Safety glasses
Use equipment for eye protection tested and approved under government NIOSH standards.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Solid
Color: Not determined.
Odor: Odorless
Odor threshold: Not determined.

pH-value: Not applicable.

Change in condition
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: Undetermined.
Flash point: Not applicable.

Flammability (solid, gaseous): Product is not flammable.

Ignition temperature:
Decomposition temperature: Not determined.

Auto igniting: Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
Lower: Not determined.
Upper: Not determined.
Vapor pressure: Not applicable.

Density: Not determined.
**Trade name:** pHAb Thiol Reactive Dye, 0.3umol/250ug

### Relative density
Not determined.

### Vapor density
Not applicable.

### Evaporation rate
Not applicable.

### Solubility in / Miscibility with Water:
Insoluble.

### Partition coefficient (n-octanol/water):
Not determined.

### Viscosity:
- **Dynamic:** Not applicable.
- **Kinematic:** Not applicable.

### Organic solvents:
0.0 %

### Solids content:
100.0 %

### Other information
No further relevant information available.

**10 Stability and reactivity**

**Reactivity:** No further relevant information available.

**Chemical stability**

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**Possibility of hazardous reactions:** No dangerous reactions known.

**Conditions to avoid:** No further relevant information available.

**Incompatible materials:** No further relevant information available.

**Hazardous decomposition products:** No dangerous decomposition products known.

**11 Toxicological information**

**Information on toxicological effects**

**Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** No data available

**Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

**Additional toxicological information:**

**Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**
  Substance is not listed.

- **NTP (National Toxicology Program)**
  Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**
  Substance is not listed.

**12 Ecological information**

**Toxicity**
- **Aquatic toxicity:** Not harmful to the aquatic environment

**Persistence and degradability** Not available
13 Disposal considerations

Waste treatment methods
Recommendation:
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

| UN-Number | Not hazardous for transportation |
| DOT, ADR, ADN, IMDG, IATA | Void |
| UN proper shipping name | None |
| DOT, ADR, ADN, IMDG, IATA | Void |
| Transport hazard class(es) | None |
| DOT, ADR, ADN, IMDG, IATA | Void |
| Packing group | None |
| DOT, ADR, IMDG, IATA | Void |
| Environmental hazards: Marine pollutant: | No |
| Special precautions for user | Not applicable. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |
| UN "Model Regulation" | Void |
15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Sara

Section 355 (extremely hazardous substances):
Substance is not listed.

Section 313 (Specific toxic chemical listings):
Substance is not listed.

TSCA (Toxic Substances Control Act):
Substance is not listed.

Proposition 65

Chemicals known to cause cancer:
Substance is not listed.

Chemicals known to cause reproductive toxicity for females:
Substance is not listed.

Chemicals known to cause reproductive toxicity for males:
Substance is not listed.

Chemicals known to cause developmental toxicity:
Substance is not listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)
Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
Substance is not listed.

GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).

Signal word Warning

Hazard-determining components of labeling:
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Hazard statements
Causes skin irritation.
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Wear protective gloves.
Wear eye protection / face protection.
Use only outdoors or in a well-ventilated area.
IF ON SKIN: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If skin irritation occurs: Get medical advice/attention.

(Contd. on page 8)
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS:
Promega Corporation
Environmental Health and Safety Department
2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330

Date of preparation / last revision 07/05/2016 / -

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* Data compared to the previous version altered.