Material Safety Data Sheet
Quantum 2 Steps 2 Straight Curl Eliminator - Step 2

1. Product and company identification

Product name: Quantum 2 Steps 2 Straight Curl Eliminator - Step 2
Manufacturer: Zotos International, INC.
100 Tokeneke Road.
Darien, CT 06820
www.zotos.com

Validation date: 7/21/2012.
In case of emergency
(800) 584-8038 [24 Hours]
(203) 656-7859 [8:30 a.m. - 5:00 p.m.]

Transportation Emergency
Contact: CHEMTREC 1-800-424-9300 [US/Canada 24 Hours]

Product type: Liquid.

2. Hazards identification

Emergency overview
NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED. Additional information on toxicological endpoints is available from the supplier upon request

Color: Off-white.
Odor: Characteristic.

Hazard statements: CAUSES EYE AND SKIN IRRITATION.
Precautionary measures: Do not breathe vapor or mist. Do not eat, crink or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential acute health effects
Inhalation: None known.
Ingestion: Mild irritant
Skin: Prolonged exposure may result in skin burn and ulcerations.
Eyes: Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms, such as redness, blistering, dermatitis etc.

Potential chronic health effects
Chronic effects: Contains material that may cause target organ damage, based on animal data.
Carcinogenicity: No known significant effects or critical hazz dls.
Mutagenicity: No known significant effects or critical hazz dls.
Teratogenicity: No known significant effects or critical hazz dls.
Developmental effects: No known significant effects or critical hazz dls.
Fertility effects: No known significant effects or critical hazz dls.

Over-exposure signs/symptoms
Inhalation: No specific data.
Ingestion: No specific data.
Skin: Adverse symptoms may include the following:
irritation
redness

Eyes: Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
2. Hazards identification

See toxicological information (Section 11)

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>hexadecan-1-ol</td>
<td>36653-82-4</td>
<td>3.2026</td>
</tr>
<tr>
<td>hydrogen peroxide</td>
<td>7722-84-1</td>
<td>2.1788</td>
</tr>
<tr>
<td>Decacyclopenta Siloxane</td>
<td>541-02-6</td>
<td>1.3</td>
</tr>
<tr>
<td>propane-1,2-diol</td>
<td>57-55-6</td>
<td>1.0419</td>
</tr>
</tbody>
</table>

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.

4. First aid measures

Eye contact: Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention if you feel unwell.

Skin contact: Wash the contaminated skin gently and thoroughly with running water and non-abrasive soap.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if you feel unwell.

Ingestion: Call physician immediately. Have conscious person drink several glasses of water or milk. Do not induce vomiting. Get medical attention.

Protection of first-aiders: Use suitable protective equipment (section 3). Avoid exposure.

Notes to physician: 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.

5. Fire-fighting measures

Flammability of the product: None known.

Extinguishing media: Extinguish fire using an agent suitable for the surrounding fire.

Special exposure hazards: 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 fire-fighting procedures: None.

Hazardous thermal decomposition products: Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- nitrogen oxides
- halogenated compounds
- metal oxide/oxides

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions: Rubber gloves.

Environmental precautions: Store in a cool, well-ventilated, dry place. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Methods for cleaning up: Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Place spilled material in an appropriate container for disposal. After contact with skin, wash immediately with plenty of water.
7. Handling and storage

Handling: Avoid contact with skin and eyes. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10).

Storage: Store in a cool, well-ventilated, dry place. Store in a dry place at low temperature away from ignition and heat sources. Avoid increased storage temperature.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
| hydrogen peroxide| ACGIH TLV (United States, 2/2010).  
TWA: 1 ppm 8 hour(s).  
TWA: 1.4 mg/m³ 8 hour(s).  
TWA: 1 ppm 8 hour(s).  
TWA: 1.4 mg/m³ 8 hour(s).  
NIOSH REL (United States, 6/2009).  
TWA: 1 ppm 10 hour(s).  
TWA: 1.4 mg/m³ 10 hour(s).  
OSHA PEL (United States, 6/2010).  
TWA: 1 ppm 8 hour(s).  
TWA: 1.4 mg/m³ 8 hour(s).  
AIHA WEEL (United States, 5/2010).  
TWA: 10 mg/m³ 8 hour(s). |
| propane-1,2-diol |                 |

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures: In case of insufficient ventilation, wear suitable respiratory equipment.

Hygiene measures: When using do not eat, drink or smoke.

Personal protection:

Respiratory: Chemical splash goggles. Protective clothing must be worn.

Hands: 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.

Eyes: 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 or dusts.

Skin: 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.

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.

Other protection: Not available.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid. [Viscous liquid.]</td>
</tr>
<tr>
<td>Flash point</td>
<td>Closed cup: Not applicable.</td>
</tr>
<tr>
<td>Color</td>
<td>Off-white.</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic.</td>
</tr>
<tr>
<td>pH</td>
<td>3 to 4</td>
</tr>
<tr>
<td>Boiling/condensation point</td>
<td>&gt;100°C (&gt;212°F)</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.004 to 1.01</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in the following materials: cold water.</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

**Chemical stability**: The product is stable.

**Conditions to avoid**: No specific data.

**Incompatible materials**: No specific data.

**Hazardous decomposition products**: Contaminated product generates oxygen gas pressure build-up

**Possibility of hazardous reactions**: Under normal conditions of storage and use, hazardous reactions will not occur.

**Hazardous polymerization**: Will not occur.

11. Toxicological information

### Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decacyclopentasiloxane</td>
<td>LD50 Oral</td>
<td>&gt;24134 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>hexadecan-1-ol</td>
<td>LD50 Oral</td>
<td>5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>propane-1,2-diol</td>
<td>LD50 Dermal</td>
<td>20800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>20 g/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**: Not available.

### Chronic toxicity

**Conclusion/Summary**: Not available.

### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decacyclopentasiloxane</td>
<td>Eyes - Mild irritant</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>hexadecan-1-ol</td>
<td>Eyes - Mild irritant</td>
<td>-</td>
<td>82 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>-</td>
<td>100 Percent</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>-</td>
<td>72 hours 75 milligrams</td>
<td>Intermittent</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>-</td>
<td>0.2 Percent</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>-</td>
<td>48 hours 50 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>-</td>
<td>24 hours 2600 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>-</td>
<td>24 hours 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>-</td>
<td>8 hours 0.2 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>-</td>
<td>1 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>-</td>
<td>100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>-</td>
<td>96 hours 30 Percent continuous</td>
<td>-</td>
</tr>
<tr>
<td>hydrogen peroxide</td>
<td>Eyes - Severe irritant</td>
<td>-</td>
<td>168 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>propane-1,2-diol</td>
<td>Skin - Moderate irritant</td>
<td>-</td>
<td>72 hours 104 milligrams</td>
<td>Intermittent</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>-</td>
<td>96 hours 30 Percent</td>
<td>-</td>
</tr>
</tbody>
</table>
11. Toxicological information

Conclusion/Summary: Not available.

Sensitizer
Conclusion/Summary: Not available.

Carcinogenicity
Conclusion/Summary: No carcinogenic effect.

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>EPA</th>
<th>NIOSH</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrogen peroxide</td>
<td>A3</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Mutagenicity
Conclusion/Summary: Not available.

Teratogenicity
Conclusion/Summary: Not available.

Reproductive toxicity
Conclusion/Summary: Not available.

12. Ecological information

Ecotoxicity: No known significant effects or critical hazards.

Aquatic ecotoxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrogen peroxide</td>
<td>Acute EC50 1.2 mg/L Marine water</td>
<td>Algae - Dunaliella tertiolecta - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 5.38 mg/L Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 2320 ug/L Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate - &lt;24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 22 ppm Fresh water</td>
<td>Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 &gt;1000 mg/L Fresh water</td>
<td>Daphnia - Daphnia magna - &lt;24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1020000 ug/L Fresh water</td>
<td>Crustaceans - Ceriodaphnia dubia - &lt;=24 hours</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 710000 ug/L Fresh water</td>
<td>Fish - Pimephales promelas - &lt;=7 days</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

Conclusion/Summary
Persistence/degredability: Not available.

Conclusion/Summary
Other adverse effects: No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal: Dispose of according to all federal, state and local applicable regulations.

Contaminated packaging: Waste must be disposed of according to applicable regulations. This material and its container must be disposed of as hazardous waste.

Waste residues information: Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

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 CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.
### 15. Regulatory information

**HCS Classification**
- Irritating material
- Target organ effects

**U.S. Federal regulations**
- TSCA : Exempt
- SARA 302/304/311/312 extremely hazardous substances: Hydrogen Peroxide, aqueous solution
- SARA 302/304 emergency planning and notification: Hydrogen Peroxide, aqueous solution
- SARA 302/304/311/312 hazardous chemicals: propane-1,2-diol; Hydrogen Peroxide, aqueous solution
- SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
  - propane-1,2-diol: Immediate (acute) health hazard, Delayed (chronic) health hazard; Hydrogen Peroxide, aqueous solution: Fire hazard, reactive, Immediate (acute) health hazard, Delayed (chronic) health hazard
- Clean Water Act (CWA) 311: Phosphoric Acid

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)**
- Not listed

**Clean Air Act Section 602 Class I Substances**
- Not listed

**Clean Air Act Section 602 Class II Substances**
- Not listed

**DEA List I Chemicals (Precursor Chemicals)**
- Not listed

**DEA List II Chemicals (Essential Chemicals)**
- Not listed

**State regulations**
- Massachusetts: The following components are listed: HYDROGEN PEROXIDE
- New York: The following components are listed: Hydrogen peroxide
- New Jersey: The following components are listed: HYDROGEN PEROXIDE; PROPYLENE GLYCOL; 1,2-PROPANEDIOL
- Pennsylvania: The following components are listed: HYDROGEN PEROXIDE (CONC > 52 PERCENT); 1,2-PROPANEDIOL

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15. Regulatory information

California Prop. 65
CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986. This product is not known to the State of California to cause cancer.

Canada Inventory
International regulations
Chemical Weapons Convention List Schedule I Chemicals
: Not listed
Chemical Weapons Convention List Schedule II Chemicals
: Not listed
Chemical Weapons Convention List Schedule III Chemicals
: Not listed

16. Other information

Hazardous Material Information System (U.S.A.)

| Health | 2 |
| Flammability | 0 |
| Physical hazards | 0 |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Flammability
Health
Instability/Reactivity
Special

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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Date of previous issue: No previous validation.
Version: 1
Prepared by: Regulatory Affairs Group

Notice to reader: Indicates information that has changed from previously issued version.

4734A 7/8
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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.