1 Identification

· Product identifier
  · Trade name: BullFrog 92381 Electronic Cleaner
  · Relevant identified uses of the substance or mixture and uses advised against
    No further relevant information available.
  · Application of the substance / the mixture Corrosion inhibitors

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    Cortec Corporation
    4119 White Bear Parkway
    St. Paul, MN 55110 USA
    Phone (651) 429-1100
    Fax (651) 429-1122
  · Information department: regulatory@cortecvci.com
  · Emergency telephone number:
    Spill, Leak, Fire, Exposure, or Accident
    24 hour CHEMTREC contact:
    USA and Canada 1-800-424-9300
    International +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

· Classification of the substance or mixture
  GHS02 GHS04 Flame, Gas cylinder
  Flam. Aerosol 1 H222 Extremely flammable aerosol.
  GHS04 Gas cylinder
  Press. Gas H280 Contains gas under pressure; may explode if heated.
  GHS08 Health hazard
  STOT RE 1 H372 Causes damage to the central nervous system through prolonged or repeated exposure.
  Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.
  GHS07
  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Irrit. 2A H319 Causes serious eye irritation.

· Label elements
  · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
## Hazard pictograms

GHS02  GHS04  GHS07  GHS08

### Signal word
Danger

### Hazard-determining components of labeling:
Solvent naphtha (petroleum), medium aliph.

### Hazard statements
- Extremely flammable aerosol.
- Contains gas under pressure; may explode if heated.
- Causes skin irritation.
- Causes serious eye irritation.
- Causes damage to the central nervous system through prolonged or repeated exposure.
- May be fatal if swallowed and enters airways.

### Precautionary statements
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- If swallowed: Immediately call a poison center/doctor.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Store locked up.
- Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

### Other hazards

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

### 3 Composition/information on ingredients

#### Chemical characterization: Mixtures

#### Description:
Mixture of the substances listed below with nonhazardous additions.

#### Dangerous components:

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Description</th>
<th>[%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-88-7</td>
<td>265-191-7</td>
<td>Solvent naphtha (petroleum), medium aliph.</td>
<td>50-100%</td>
</tr>
<tr>
<td>5131-66-8</td>
<td>225-878-4</td>
<td>3-butoxypropan-2-ol</td>
<td>10-25%</td>
</tr>
<tr>
<td>75-28-5</td>
<td>200-857-2</td>
<td>isobutane</td>
<td>10-25%</td>
</tr>
<tr>
<td>74-98-6</td>
<td>200-827-9</td>
<td>propane liquefied</td>
<td>10-25%</td>
</tr>
<tr>
<td>29385-43-1</td>
<td>249-596-6</td>
<td>Alkyltriazole</td>
<td>≤ 2.5%</td>
</tr>
</tbody>
</table>

#### Additional information
For the wording of the listed risk phrases refer to section 16.
4 First-aid measures

- **Description of first aid measures**
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.
  Rinse out mouth and then drink plenty of water. Do not induce vomiting.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
  - CO2, sand, extinguishing powder. Do not use water.

  - **For safety reasons unsuitable extinguishing agents**
  - Water.
    - Water with full jet.

- **Special hazards arising from the substance or mixture** Carbon monoxide (CO)

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  - Wear protective equipment. Keep unprotected persons away.
    - Ensure adequate ventilation.

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

- **Methods and material for containment and cleaning up:**
  - Ensure adequate ventilation.
  - Do not flush with water or aqueous cleansing agents.

- **Reference to other sections**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- **Handling**
  - **Precautions for safe handling**
    - Keep receptacles tightly sealed.
    - Keep away from heat and direct sunlight.

(Contd. on page 4)
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

**Information about protection against explosions and fires:**

- Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights.
Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material.
Use explosion-proof apparatus / fittings and spark-proof tools.

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

**Storage**
- **Requirements to be met by storerooms and receptacles:**
  Store in a cool location.
  Store only in the original receptacle.
  Observe official regulations on storing packagings with pressurized containers.

**Information about storage in one common storage facility:**
- Store away from foodstuffs.
- Store away from oxidizing agents.

**Further information about storage conditions:**
- Keep receptacle tightly sealed.
- Do not gas tight seal receptacle.
- Store in cool, dry conditions in well sealed receptacles.
- Protect from heat and direct sunlight.

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

---

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

  **Components with limit values that require monitoring at the workplace:**

  - **75-28-5 isobutane (10-25%)**
    - TLV Short-term value: 2370 mg/m³, 1000 ppm
  
  - **74-98-6 propane liquefied (10-25%)**
    - PEL Long-term value: 1800 mg/m³, 1000 ppm
    - REL Long-term value: 1800 mg/m³, 1000 ppm
    - TLV refer to Appendix F

- **Additional information:** The lists that were valid during the creation were used as basis.
### Breathing equipment:
Use suitable respiratory protective device in case of insufficient ventilation.

### Protection of hands:
Protective gloves
I.E., Nitrile, Viton, Neoprene
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

### Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

### Eye protection:
Tightly sealed goggles.

### Body protection:
Protective work clothing.

---

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
</tr>
<tr>
<td>Appearance:</td>
</tr>
<tr>
<td>Form: Aerosol</td>
</tr>
<tr>
<td>Color: Light yellow</td>
</tr>
<tr>
<td>Odor: Characteristic</td>
</tr>
<tr>
<td>Odour threshold: Not determined.</td>
</tr>
</tbody>
</table>

| pH-value: Not determined.                             |
| Change in condition                                  |
| Melting point/Melting range: Unetermined             |
| Boiling point/Boiling range: Not applicable, as aerosol |

| Flash point: Not applicable, as aerosol              |
| Flammability (solid, gaseous): Not applicable.       |
| Ignition temperature: 265 °C (509 °F)                |
| Decomposition temperature: Not determined.           |
| Auto igniting: Product is not selfigniting.          |
| Danger of explosion: Not determined.                 |
| Explosion limits:                                    |
| Lower: 0.6 Vol %                                     |
| Upper: 10.9 Vol %                                    |
| Vapor pressure at 20 °C (68 °F): 8300 hPa (6226 mm Hg) |

| Density: Not determined                              |
| Relative density: Not determined.                   |
| Vapour density: Not determined.                      |
| Evaporation rate: Not applicable.                   |
| Solubility in / Miscibility with Water: Not miscible or difficult to mix |
Trade name: BullFrog 92381 Electronic Cleaner

| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| dynamic: | Not determined. |
| kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 60-75 % |
| Solids content: | 6-8 % |
| · Other information | The above data are typical values and do not constitute a specification. |

10 Stability and reactivity

· Reactivity
· 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:

| 64742-88-7 Solvent naphtha (petroleum), medium aliph. |
| Oral | LD50 | >6500 mg/kg (rat) |
| Dermal | LD50 | >3000 mg/kg (rab) |
| Inhalative | LC50/4 h | >14 mg/l (rat) |
· Primary irritant effect:
· on the skin: Repeated or prolonged skin contact with this product may produce skin irritation.
· on the eye: May be irritating.
· Sensitization: No sensitizing effects known.
· Additional toxicological information:
· Carcinogenic categories
· IARC (International Agency for Research on Cancer)
  IARC Category 3 : Not classifiable as to its carcinogenicity to humans
· NTP (National Toxicology Program)
  None of the ingredients is listed.
· OSHA-Ca (Occupational Safety & Health Administration)
  None of the ingredients is listed.

12 Ecological information

· Toxicity
· Aquatic toxicity: No further relevant information available.
Trade name: BullFrog 92381 Electronic Cleaner

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
  Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
  ![Warning icon]

  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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

### 14 Transport information

- **UN-Number**
- DOT, ADR, IMDG, IATA: UN1950

- **UN proper shipping name**
- DOT: Aerosols
- ADR: 1950 Aerosols
- IMDG, IATA: AEROSOLS

- **Transport hazard class(es)**
- **DOT**
  - Class: 2 Gases
  - Label: 2.1

- **ADR**
  - Class: 2 5F Gases
Trade name: BullFrog 92381 Electronic Cleaner

- **Label**: 2.1
- **IMDG, IATA**
- **Class**: 2 Gases
- **Label**: 2.1
- **Packing group**: Void
- **Environmental hazards**: No
- **Marine pollutant**: No
- **Special precautions for user**: Warning: Gases
- **EMS Number**: F-D,S-U
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**: Not applicable.
- **Transport/Additional information**: Not applicable.
- **ADR**
  - **Exempted quantities (EQ)**: Code: E0
    - Not permitted as Exempted Quantity
- **IMDG**
  - **Limited quantities (LQ)**: 1L
  - **Exempted quantities (EQ)**: Code: E0
    - Not permitted as Exempted Quantity
- **UN "Model Regulation"**: UN1950, Aerosols, 2.1

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **SARA Section 355 (extremely hazardous substances)**
    - None of the ingredients is listed.
  - **SARA Section 313 (specific toxic chemical listings)**
    - None of the ingredients is listed.
  - **TSCA (Toxic Substances Control Act) (-)**
    - All ingredients are listed.
  - **Prop 65 - Chemicals known to cause cancer**
    - None of the ingredients is listed.
- **Cancerogenity categories**
- **EPA (Environmental Protection Agency)**
  - None of the ingredients is listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  - None of the ingredients is listed.
### Safety Data Sheet
acc. to OSHA HCS

**Trade name:** BullFrog 92381 Electronic Cleaner

<table>
<thead>
<tr>
<th>Components List</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Canadian Domestic Substances List (DSL)</strong></td>
<td>All components are listed on the DSL or NDSL</td>
</tr>
<tr>
<td><strong>Philippines Inventory of Chemicals and Chemical Substances</strong></td>
<td>All ingredients are listed.</td>
</tr>
<tr>
<td><strong>Chinese Chemical Inventory of Existing Chemical Substances</strong></td>
<td>All ingredients are listed.</td>
</tr>
<tr>
<td><strong>Australian Inventory of Chemical Substances</strong></td>
<td>All ingredients are listed.</td>
</tr>
<tr>
<td><strong>New Zealand Inventory of Chemicals</strong></td>
<td>All ingredients are listed.</td>
</tr>
<tr>
<td><strong>Existing Chemical Substances</strong></td>
<td>Solvent naphtha (petroleum), medium aliph.</td>
</tr>
</tbody>
</table>

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

### Hazard pictograms
- GHS02
- GHS04
- GHS07
- GHS08

### Signal word
Danger

### Hazard-determining components of labeling:
Solvent naphtha (petroleum), medium aliph.

### Hazard statements
- Extremely flammable aerosol.
- Contains gas under pressure; may explode if heated.
- Causes skin irritation.
- Causes serious eye irritation.
- Causes damage to the central nervous system through prolonged or repeated exposure.
- May be fatal if swallowed and enters airways.

### Precautionary statements
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- If swallowed: Immediately call a poison center/doctor.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Store locked up.
- Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

### National regulations

<table>
<thead>
<tr>
<th>Class</th>
<th>Share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NK</td>
<td>69.5</td>
</tr>
</tbody>
</table>

### 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. Cortec Corporation does not warrant any translation of this SDS not created by Cortec Corporation.

- Date of preparation / last revision 06/12/2015 / -

- Abbreviations and acronyms:
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  - IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
  - ICAO: International Civil Aviation Organisation
  - ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
  - 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
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - Flam. Gas 1: Flammable gases, Hazard Category 1
  - Flam. Aerosol 1: Flammable aerosols, Hazard Category 1
  - Press. Gas: Gases under pressure: Compressed gas
  - Flam. Liq. 4: Flammable liquids, Hazard Category 4
  - Acute Tox. 4: Acute toxicity, Hazard Category 4
  - Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
  - Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
  - STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
  - STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1
  - Asp. Tox. 1: Aspiration hazard, Hazard Category 1

* Data compared to the previous version altered.