

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/17/2024

Reviewed on 01/17/2024

1 Identification

- **Product identifier**
- **Trade name:** Bullfrog® 92381 Electronic Cleaner
- **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:** compliance@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 Flame

Flammable Aerosols 1

H222 Extremely flammable aerosol.



GHS04 Gas cylinder

Gases under Pressure - Compressed gas H280 Contains gas under pressure; may explode if heated.



GHS08 Health hazard

Toxic to Reproduction 1B

H360 May damage fertility or the unborn child.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS04



GHS08

- **Signal word** Danger

- **Hazard statements**

H222 Extremely flammable aerosol.

H280 Contains gas under pressure; may explode if heated.

H360 May damage fertility or the unborn child.

- **Precautionary statements**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

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- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P211 Do not spray on an open flame or other ignition source.
- P251 Pressurized container: Do not pierce or burn, even after use.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- P410+P403 Protect from sunlight. Store in a well-ventilated place.
- P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
- P501 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:**

74-98-6	propane liquefied	10-25%
75-28-5	2-methylpropane	10-25%
111-77-3	Dowanol DM	≥0-≤2.5%
111-76-2	butyl cellosolve	≥0-≤2.5%

- **Additional information**

In accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR 1910.1200), the specific chemical identity and/or exact percentage composition has been withheld as a trade secret.
For the wording of the listed hazard 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.
If skin irritation continues, consult a doctor.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** Call a doctor immediately.
- **Information for doctor** Show this safety data sheet to the doctor in attendance.
- **Most important symptoms and effects, both acute and delayed**
The symptoms and effects are as expected from the hazards shown in section 2. No specific product related symptoms are known.
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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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**
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters** Self-contained breathing apparatus
- **Protective equipment:**
Mount respiratory protective device.
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

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



Wear protective equipment. Keep unprotected persons away.

- Ensure adequate ventilation
- Keep away from ignition sources
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **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**
Store in cool, dry place in tightly closed receptacles.
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 from heat.
- Keep respiratory protective device available.
- 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.
- Provide adequate precautions, such as electrical grounding and bonding.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
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.
Protect from heat and direct sunlight.
- **Storage class 2 B**
- **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 section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

74-98-6 propane liquefied (10-25%)

PEL	Long-term value: 1800 mg/m ³ , 1000 ppm
REL	Long-term value: 1800 mg/m ³ , 1000 ppm
TLV	see Appendix F Minimal oxygen content (D, EX)

75-28-5 2-methylpropane (10-25%)

TLV	Short-term value: 1000 ppm (EX)
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111-76-2 butyl cellosolve (≤2.5%)

PEL	Long-term value: 240 mg/m ³ , 50 ppm Skin
REL	Long-term value: 24 mg/m ³ , 5 ppm Skin
TLV	Long-term value: 20 ppm BEI, A3

- **Ingredients with biological limit values:**

111-76-2 butyl cellosolve (≤2.5%)

BEI	200 mg/g creatinine Medium: urine Time: end of shift Parameter: Butoxyacetic acid (BAA) (with hydrolysis)
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls** Use local exhaust ventilation to control airborne concentrations below exposure limits.
- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing

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Wash hands before breaks and at the end of work.
Store protective clothing separately.

· **Breathing equipment:**



Use suitable respiratory protective device in case of insufficient ventilation.

Suitable respiratory protective device recommended.

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). To determine the appropriate type of respiratory protection that should be used, a hazard assessment should be performed prior to using the product. Environmental conditions such as ventilation and other contaminants may affect the type of respiratory protection that is chosen.

· **Protection of hands:**

Protective gloves

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.

· **Protective Gloves I.E.**, Nitrile, Viton, Neoprene

· **Eye protection:** Tightly sealed goggles.

· **Body protection:** Protective work clothing.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Aerosol
Color:	Light yellow
Odor:	Characteristic
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	undetermined
Boiling point/Boiling range:	-44.5 °C (-48.1 °F)

· **Flash point:** -97 °C (-142.6 °F)

· **Flammability (solid, gaseous)** Not applicable.

· **Auto igniting:** 240 °C (464 °F)

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

Lower:	1.7 Vol % (*)
Upper:	10.9 Vol % (*)

· **Vapor pressure at 20 °C (68 °F):** 8,300 hPa (6.200 mm Hg) (*)

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· Density at 20 °C (68 °F):	0.77-0.81 g/cm ³ (6.43-6.76 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Other information	The above data are typical values and do not constitute a specification. *Properties have been calculated.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under recommended storage conditions
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid**
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
High temperatures, sparks, and open flames.
- **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:
111-77-3 Dowanol DM

Oral	LD50	4,160 mg/kg (Guinea Pig) 8,222 mg/kg (mouse) 9,210 mg/kg (rat)
Dermal	LD50	650 mg/kg (rabbit)

111-76-2 butyl cellosolve

Oral	LD50	1,200 mg/kg (ATE) 320 mg/kg (rabbit) 1,784 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (Guinea Pig) 435 mg/kg (rabbit)
Inhalative	LC50/4 h	3 mg/l (ATE) 450 mg/l (rat)

- **Primary irritant effect:**
- **on the eye:** No irritating effect.

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- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

IARC's Monograph number 93 reports sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as in paints."

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

13463-67-7	titanium dioxide	2B
111-76-2	butyl cellosolve	3
7631-86-9	silicon dioxide, chemically prepared	3
100-42-5	styrene	2A

- **NTP (National Toxicology Program)**

100-42-5	styrene	R
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- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

111-76-2 butyl cellosolve	
LC50/ 96 h	>0.28 mg/l (Fish) (96 hours)

- **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.

- **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** Dispose of in accordance with local, state, and federal regulations.

- **Uncleaned packagings:**

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

14 Transport information

- **UN-Number**

- **DOT, ADR, IMDG, IATA**

UN1950

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· **UN proper shipping name**
 · **DOT** Aerosols, flammable
 · **ADR** 1950 AEROSOLS
 · **IMDG** AEROSOLS
 · **IATA** AEROSOLS, flammable

· **Transport hazard class(es)**· **DOT**

· **Class** 2.1 Gases
 · **Label** 2.1

· **ADR**

· **Class** 2.5F Gases
 · **Label** 2.1

· **IMDG, IATA**

· **Class** 2.1 Gases
 · **Label** 2.1

· **Packing group**· **DOT, ADR, IMDG, IATA** not classified as dangerous goods· **Environmental hazards:** Not applicable.· **Special precautions for user** Warning: Gases· **Hazard identification number (Kemler code):** -· **EMS Number:** F-D,S-U· **Stowage Code**

SW1 Protected from sources of heat.
 SW22 For AEROSOLS with a maximum capacity of 1 litre:
 Category A. For AEROSOLS with a capacity above 1 litre:
 Category B. For WASTE AEROSOLS: Category C, Clear of
 living quarters.

· **Segregation Code**

SG69 For AEROSOLS with a maximum capacity of 1 litre:
 Segregation as for class 9. Stow "separated from" class 1 except
 for division 1.4.
 For AEROSOLS with a capacity above 1 litre:
 Segregation as for the appropriate subdivision of class 2.
 For WASTE AEROSOLS:
 Segregation as for the appropriate subdivision of class 2.

· **Transport in bulk according to Annex II of
 MARPOL73/78 and the IBC Code**

Not applicable.

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· **Transport/Additional information:**· **ADR**· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **IMDG**· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN 1950 AEROSOLS, 2.1

15 Regulatory information

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

No further relevant information available.

· **Sara**· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

111-77-3 Dowanol DM

1336-21-6 ammonia, aqueous solution

111-76-2 butyl cellosolve

112-34-5 2-(2-butoxyethoxy)ethanol

7632-00-0 sodium nitrite

100-42-5 styrene

· **TSCA (Toxic Substances Control Act): (All ingredients are listed.)**· **Hazardous Air Pollutants**

100-42-5 styrene

· **Proposition 65**· **Prop 65 - Chemicals known to cause cancer**

titanium dioxide

styrene

· **Chemicals known to cause reproductive toxicity for females**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity**

None of the ingredients is listed.

· **Carcinogenicity categories**· **EPA (Environmental Protection Agency)**

111-76-2 butyl cellosolve

NL

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

13463-67-7 titanium dioxide

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· Canadian Domestic Substances List (DSL): (Substances not listed)

All ingredients are listed.

· Canadian Non-Domestic Substances List (NDSL): (Substances not listed)

None of the ingredients is listed.

· Philippines Inventory of Chemicals and Chemical Substances: (Substances not listed)

Polyurethane resin

· Chinese Chemical Inventory of Existing Chemical Substances: (Substances not listed)

All ingredients are listed.

· Australian Inventory of Chemical Substances: (Substances not listed)

	Polyurethane resin
15821-83-7	2-Butoxy-1-Propanol
55965-84-9	reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

· New Zealand Inventory of Chemicals: (Substances not listed)

All ingredients are listed.

· Existing Chemical Substances

propane liquefied	2-3
2-methylpropane	2-4
Dowanol DM	2-422, 2-2979, 7-97
butyl cellosolve	2-407, 2-2424, 7-97

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

· Hazard pictograms


GHS02 GHS04 GHS08

· Signal word Danger

· Hazard statements

H222 Extremely flammable aerosol.

H280 Contains gas under pressure; may explode if heated.

H360 May damage fertility or the unborn child.

· Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Pressurized container: Do not pierce or burn, even after use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P410+P403 Protect from sunlight. Store in a well-ventilated place.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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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** 01/17/2024

· **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)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international 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

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

BEI: Biological Exposure Limit

Flammable Aerosols 1: Aerosols – Category 1

Gases under Pressure - Compressed gas: Gases under pressure – Compressed gas

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B

· *** Data compared to the previous version altered.**

USA