

Material Safety Data Sheet



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Section 1. Chemical Product and Company Identification

Product name ELEC II PLUS
Product use Aerosol Electrical Contact Cleaner
Product code 0283
Date of issue 10/20/10 **Supersedes** 04/05/10

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 1-877-I-BUY-ZEP (428-9937)

For Medical Emergency
(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

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Printing date: 10/20/10

Section 2. Hazards Identification

Emergency overview

*Hazard Determination System (HDS): Health, Flammability, Reactivity

WARNING !



VAPOR HARMFUL. CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. CONTENTS UNDER PRESSURE.

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects

Routes of Entry

Inhalation. Absorbed through skin.

Eyes

Liquid in eye may cause irritation with possible damage if not rinsed immediately. Adverse symptoms may include the following: Irritation, redness, lacrimation, pain.

Skin

Causes skin irritation. May be harmful if absorbed through the skin. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering.

Inhalation

Can cause central nervous system (CNS) depression. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea. Severe over-exposure can result in heartbeat irregularity (arrhythmia) and death.

Ingestion

Unlikely in this form. Ingestion may cause nausea, weakness and central nervous system effects.

Chronic effects

Repeated or prolonged exposure to the substance can produce damage to the heart, liver, lungs, blood, testes.

Carcinogenicity

Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Product/ingredient name

ACGIH

IARC

EPA

NIOSH

NTP

OSHA

None.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
1,1,1,2 - TETRAFLUOROETHANE; hfc-134a	811-97-2	50 - 60
1,2-DICHLOROETHYLENE (trans); trans-DCE	156-60-5	20 - 30
1,1,1,2,2,3,4,5,5,5 - DECAFLUOROPENTANE; hfc-43-10 mee	138495-42-8	5 - 15
1,1,1,3,3 - PENTAFLUOROBUTANE; hfc-365mfc	406-58-6	1 - 10

Section 4. First Aid Measures

Eye Contact

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. If frostbite occurs, get medical attention.

Skin Contact

Rinse with plenty of running water. Continue to rinse for at least 10 minutes. If irritation, redness or discomfort is present, get medical attention immediately.

Inhalation

Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Do not give adrenaline or similar drugs. Get medical attention if adverse health effects persist or are severe.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.

Section 5. Fire Fighting Measures

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



Flash Point Not applicable

Flammable Limits Not available.

Flammability Non-flammable.

Fire hazard CONTENTS UNDER PRESSURE. Contains gas under pressure; may explode if heated.. May emit toxic fumes under fire conditions.

Fire-Fighting Procedures Cool containers with water jet in order to prevent pressure build-up, auto-ignition or explosion. Do not release runoff from fire to drains or watercourses. Fire-fighters should wear appropriate protective equipment.

Section 6. Accidental Release Measures

Spill Clean up Large spills are unlikely due to packaging. Eliminate all ignition sources. Ensure ventilation is adequate if there is a risk of aerosol formation or vapor build-up.

Section 7. Handling and Storage

Handling Put on appropriate personal protective equipment (see section 8). Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Use only with adequate ventilation. Watch for accumulation in low confined areas. Wash thoroughly after handling.

Storage CONTENTS UNDER PRESSURE. 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 and use away from heat, sparks, open flame or any other ignition source. Store between the following temperatures: 40°F - 120°F (4.4°C - 49°C). Do not puncture or incinerate. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name

1,1,1,2 – TETRAFLUOROETHANE; hfc-134a

1,2-DICHLOROETHYLENE (trans); trans-DCE

Exposure limits

AIHA WEEL (United States, 1/2009).

TWA: 1000 ppm 8 hour(s).

ACGIH TLV (United States, 1/2009).

TWA: 200 ppm 8 hour(s).

TWA: 793 mg/m³ 8 hour(s).

Personal Protective Equipment (PPE)

Eyes Recommended: Safety glasses.

Body Wear appropriate protective clothing to prevent skin contact (Nitrile gloves.)

Respiratory Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.



Section 9. Physical and Chemical Properties

Physical State Liquid. [Aerosol.]

pH Not applicable.

Boiling Point 35°C (95°F)

Specific Gravity 1.24

Solubility Negligible

Color Clear. Colorless.

Odor Ethereal. [Slight]

Vapor Pressure 29.3 kPa (220 mm Hg) @ 70F (liquid)

Vapor Density Not available.

Evaporation Rate >1 (butyl acetate = 1)

VOC (Consumer) Federal: 22.8% 2.4lb/gal 282g/l
Cal/OTC: 45% 4.65lb/gal 557g/l

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility Reactive or incompatible with the following materials: alkaline earth metals, oxidizing materials and strong alkalis

Hazardous Polymerization Will not occur.

Hazardous Decomposition Products Carbon dioxide (CO₂), Carbon monoxide, Hydrogen chloride (HCl) and Hydrogen fluoride (HF).

Section 11. Toxicological Information**Acute Toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
1,1,1,2 - TETRAFLUOROETHANE	LC50 Inhalation Vapor	Rat	1500 g/m3	4 hours
1,2-Dichloroethylene (trans)	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	1235 mg/kg	-

Section 12. Ecological Information

Environmental Effects Not available.

Aquatic Ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
1,2-Dichloroethylene (trans)	-	Acute LC50 220000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours
	-	Chronic NOEC <110000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours

Section 13. Disposal Considerations**Waste Information**

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Code: - (Not applicable.)
Classification: - (Non-hazardous waste)

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification		Consumer commodity	ORM-D		
IMDG Class	1950	Aerosols, non-flammable	2.2		

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

PG* : Packing group

Section 15. Regulatory Information**U.S. Federal Regulations**

SARA 313 toxic chemical notification and release reporting:

No products were found.

Clean Water Act (CWA) 307: 1,2-Dichloroethylene (trans)

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

All Components of this product are listed or exempt from listing on TSCA Inventory.

TSCA 5(a)2 final significant rules: 1,1,1,2,2,3,4,5,5,5-Decafluoropentane

TSCA 12(b) one-time export: 1,1,1,2,2,3,4,5,5,5-Decafluoropentane

State Regulations

California Prop 65 No products were found.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
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.

*NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.