



Zep Inc.  
1310 Seaboard Industrial Blvd.  
Atlanta, GA 30318  
1-877-I-BUY-ZEP (428-9937)  
Superior Solutions www.zep.com

# Material Safety Data Sheet and Safe Handling and Disposal Information

## Section 1. Chemical Product and Company Identification

**Product name** ZEP ELEC II PLUS  
**Product use** Aerosol Electrical Contact Cleaner  
**Product code** 0283  
**Date of issue** 08/19/05 **Supersedes**

---

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

**For Medical Emergency**  
 INFOTRAC: (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

Printing date: 06/23/08

### Prepared By

Compliance Services  
1420 Seaboard Industrial Blvd.  
Atlanta, GA 30318

## Section 2. Composition, Information on Ingredients

Name of hazardous ingredients	CAS #	% by Weight	Exposure Limits
1,1,1,2 - TETRAFLUOROETHANE; hfc-134a	811-97-2	50 - 60	AIHA WEEL (United States). TWA: 1000 ppm 8 hour(s).
1,2-DICHLOROETHYLENE (trans); trans-DCE	156-60-5	20 - 30	ACGIH TLV (United States). TWA: 200 ppm 8 hour(s).
1,1,1,2,2,3,4,5,5,5 - DECAFLUOROPENTANE; hfc-43-10 mee	138495-42-8	5 - 15	Not established
1,1,1,3,3 - PENTAFLUOROBUTANE; hfc-365mfc	406-58-6	1 - 10	Not established

## Section 3. Hazards Identification

### Acute Effects

**Routes of Entry** Absorbed through skin. Inhalation.

- Skin** Hazardous by the following route of exposure: of skin contact (irritant). Causes skin irritation. Skin inflammation is characterized by itching, scaling, or reddening. Harmful if absorbed through the skin.
- Eyes** Hazardous by the following route of exposure: of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching, lacrimation, pain.
- Inhalation** Hazardous by the following route of exposure: of inhalation. Can cause central nervous system (CNS) depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. May cause heart beat irregularity (arrhythmia). In confined spaces, the gas can cause asphyxiation.
- Ingestion** Harmful if swallowed. Ingestion may cause nausea, weakness and central nervous system effects.

### HMIS

Health	1
Fire Hazard	0
Reactivity	1
Personal Protection	B

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

### Carcinogenic Effects

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

### Chronic Effects

Overexposure of this product by inhalation or absorption can produce central nervous system depression resulting in headache, nausea and/or dizziness. Prolonged or repeated contact may dry skin and cause irritation. The substance may be toxic to liver, heart, upper respiratory tract, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

See Toxicological Information (section 11)

## Section 4. First Aid Measures

### Eye Contact

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention.

### Skin Contact

Wash affected area with soap or mild detergent and water. Remove contaminated clothing and shoes. Get medical attention.

### Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

### Ingestion

Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head lower than hips to help prevent aspiration. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Section 5. Fire Fighting Measures**

<b>Flash Point</b>	Not applicable.	<b>Flammable Limits</b>	Not applicable.
<b>Flammability</b>	Non-flammable. (CSMA)		
<b>Fire hazard</b>	May emit toxic fumes under fire conditions. Contents under pressure.		
<b>Fire-fighting procedures</b>	In case of fire, use water spray (fog), foam or dry chemical. Wear special protective clothing and positive pressure, self-contained breathing apparatus.		

**Section 6. Accidental Release Measures**

**Spill Clean up** Large spills are unlikely due to packaging.

**Section 7. Handling and Storage**

<b>Handling</b>	Store and use away from heat, sparks, open flame or any other ignition source. Emits toxic fumes when heated. Avoid contact with eyes, skin and clothing. Avoid breathing vapors, spray or mists. Use only with adequate ventilation. Wash thoroughly after handling. Wash contaminated clothing before reusing.
<b>Storage</b>	Keep container in a cool, well-ventilated area. Keep away from heat and direct sunlight. Do not store above the following temperature: 49°C (120°F). Keep away from incompatibles. Do not puncture or incinerate. Keep out of the reach of children.

**Section 8. Exposure Controls, Personal Protection**

	<b>Personal Protection</b>	<b>Protective Clothing (Pictograms)</b>
<b>Eyes</b>	Safety glasses.	
<b>Body</b>	Nitrile gloves.	
<b>Respiratory</b>	Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Wear appropriate respirator when ventilation is inadequate.	

**Section 9. Physical and Chemical Properties**

<b>Physical State</b>	Thin liquid (Aerosol.)	<b>Color</b>	Clear. Colorless.
<b>pH</b>	Not applicable	<b>Odor</b>	Ethereal.
<b>Boiling Point</b>	35°C (95°F) - Initial	<b>Vapor Pressure</b>	220 mmHg @ 70F
<b>Specific Gravity</b>	1.24 (Water = 1)	<b>Vapor Density</b>	Not available.
<b>Solubility</b>	Very slightly soluble in the following materials: cold water, hot water.	<b>Evaporation Rate</b>	>1 compared with Butyl acetate.
		<b>VOC (Consumer)</b>	Federal: 22.8% 2.4lb/gal 282g/l. Cal/OTC: 45.0% 4.65lb/gal 557g/l.

**Section 10. Stability and Reactivity**

<b>Stability and Reactivity</b>	The product is stable.
<b>Incompatibility</b>	Reactive with oxidizing agents, metals, acids, alkalis.
<b>Hazardous Polymerization</b>	Will not occur.
<b>Hazardous Decomposition Products</b>	Hydrogen chloride (HCl), Hydrogen fluoride (HF), carbon oxides (CO, CO <sub>2</sub> ), and Phosgene gas.

**Section 11. Toxicological Information**

<b>Toxicity to Animals</b>	<b>1,2-DICHLOROETHYLENE (trans); trans-DCE:</b> <sup>^</sup> [25,45,50,70 ORAL (LD50):□Acute: 1275 mg/kg [Rat]. DERMAL (LD50):□Acute: >2000 mg/kg [Rat]. VAPOR (LC50):□Acute: 24100 ppm 4 hour(s) [Rat].
	<b>1,1,1,2,2,3,4,5,5,5-Decafluoropentane:</b> <sup>^</sup> [25,45,50,70 DERMAL (LD50):□Acute: >2000 mg/kg [Rat]. VAPOR (LC50):□Acute: 11100 ppm 4 hour(s) [Rat].
	<b>1,1,1,3,3-pentafluorobutane:</b> <sup>^</sup> [25,45,50,70 DERMAL (LD50):□Acute: >2000 mg/kg [Rat].

**Section 12. Ecological Information**

<b>Ecotoxicity</b>	Not available.
<b>Biodegradable/OECD</b>	Not available.

**Section 13. Disposal Considerations**

<b>Waste Information</b>	Waste must be disposed of in accordance with federal, state and local environmental control regulations.	<b>Waste Stream</b>	Code: - (Not applicable.) Classification: - (Non-hazardous waste)
--------------------------	--	---------------------	--

Consult your local or regional authorities.

**Section 14. Transport Information****Proper shipping name** Consumer commodity**DOT Classification** ORM-D**UN number** Not regulated.

**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.

**TDG Classification** ORM-D**Section 15. Regulatory Information****U.S. Federal Regulations** SARA 313 toxic chemical notification and release reporting:

No products were found.

Clean Water Act (CWA) 311: 1,2-Dichloroethylene (trans)

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.

**State Regulations** California prop. 65: No products were found.**WHMIS (Canada)**

Class A: Compressed gas.

Class D-2B: Material causing other toxic effects (Toxic).

**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.*